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The American Journal of

CLINICAL MEDICINE

Dependable Therapeutic Fact for Daily Use

DECEMBER MCMXVIII

PEACE ON EARTH

THE events of the last weeks have brought Peace nearer. We hope that the coming meeting of the Peace Commission may make Christmas time true once more.

Incidentally, this is the last number of Vol. 25. If your subscription is due, Doctor, please send it in without further reminder. You will help us — and yourself.

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The American Journal of
CLINICAL MEDICINE
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Vol. 25, No. 12 December, 1918

The End—and a Beginning

EARLY in the month of November, the repeated and urgent demands on the part of the central European powers, to bring about a cessation of hostilities before their own countries were invaded by the Allied and American armies, were successful in so far as they secured the signing of the armistice. The two days of delirious joy and celebration that were occasioned by the premature announcement of the armistice having been signed and, then, by the actual news of the accomplished fact will remain imprinted in the memories of those observing and participating in the world's carnival for the rest of their lives. Literally, the world went mad, joy-mad. It committed all sorts of follies and gloried in its folly. We ourselves confess to having accepted the frequent liberties taken by the celebrating crowd with our hats, with our bald pates, and our persons in general, rather good naturedly and in a spirit of joining the Romans in their Roman doings.

It was quite natural after all that, after the terrific strain of the last four and one-half years, the rather sudden and definite approach of peace should have upset the mental poise and equilibrium of the populace. Fortunately, the celebrating was entirely good natured and very few excesses were recorded. Sudden relief of the tension produced a turmoil reaction, but, very soon, the world that for one day was crazy and happy returned to its sober and earnest duties, resolving to attack its serious problems promptly and with a view to securing the best possible results.

And the problems that are now before us for the reconstruction of normal conditions are great as well as numerous. The terms of the armistice fortunately have made it impossible for the central powers to reopen hostilities and to work any material injury in their ultimate retreat from occupied territory. The central powers themselves have difficult problems of their own to solve as they are facing internal revolution which already has resulted in the removal of most crowned heads from power and the establishment of a number of independent republics. Under existing circumstances, it will be the duty of the

Allied and the United States governments to watch political events in central Europe and to prevent as much as possible revolution, bolshevism and anarchy. All governments having armies in the field have the task of managing the return of their soldiers to their homes and to peaceful industrial pursuits, as much as possible without disturbing seriously and injuriously industrial conditions in the home countries. Naturally, during war, conditions of industries had to continue their activities at home and, the young men being eliminated from participation in industrial pursuits, their places were taken by others. The return of the young men will create problems that must be solved peacefully and without injury to all those concerned.

Then, there is the return of large industrial organizations from war conditions to those of peace. Already, the government has canceled many orders that had been contracted for when it seemed that the war might continue into the next year and longer. While the manufacture of war ammunition and other war machinery no longer is required, the industries that were concerned in it will have to resume their former occupations and production with as little friction as may be, keeping in mind the fact that several million young men will return sooner or later to take up their duties and again become active members in their respective communities.

Further, there is the problem of feeding not only our country but our army in Europe and, moreover, the task of aiding in the feeding of those peoples dependent upon our cooperation and looking to us for food. We have already succeeded during the past years in protecting Belgium from utter annihilation through starvation by supplying food for the hungry populace. We have contributed foodstuffs to the needs of the Allied nations and also those of Servia. Our resources will be drawn upon even more during the next year in order to enable the European peoples to tide over the time intervening until a new harvest can be brought in. The want of food, it has been pointed out frequently and truly, is one of the most prolific causes of revolutions and we are confronted with the necessity of supplying food not only to our own people and our soldiers, not only to our friends of England, France and Belgium but also to our late enemies the German people, and, in short, probably to all European nations. While we can in a measure depend upon the cooperation of Argentine and Australia, the actual management of provisioning Europe probably will fall upon us and here indubitably there is the most difficult task set of any connected with the war.

Thus, there are many difficulties, many important tasks and problems confronting us that call for solution immediately in the next few months until "the boys come home." While they have given their young manhood, their strength, their enthusiasm and, often, their lives, to secure the aims for which we and our Allies were striving, it remains for us to reorganize the world and to provide means for the homecoming soldiers so that they may reenter civil life not only with the consciousness of having done their duty well and nobly but also feeling that we at home have done our part in the greatest struggle that the world ever has passed through.

A man's methods may be studied, his resources considered, and his efforts admired, but, the final verdict of posterity is based only on the results he accomplished.

FIGHTING INFLUENZA

"We learn from the newspapers," as Mr. Dooley says, that another wave of influenza is now on its way. It is sweeping over Europe for the second or third time, and, it is anticipated that, with the return of troops, the disease will again take on new virulence. Moreover, there are signs that with the coming of cold weather more cases of the disease are already beginning to occur. The wise doctor will take stock of his previous experience and employ the breathing spell to familiarize himself with the methods that gave other physicians best results.

We are printing in this number of CLINICAL MEDICINE several articles on the treatment of influenza, all of which deserve very careful consideration. The various theories regarding etiology are interesting, and so far as they bear upon the therapy, they should be considered with care, but, in the last analysis, the physician should endeavor to base his methods of treatment upon simple, common-sense principles. If he tries to do too much and to adapt his methods to every theory, he is likely to fail

where otherwise he might succeed. For instance, Doctor Croft's theory of the etiology is interesting, but, the present writer does not feel that it is wise to reject bacterin therapy because it does not fit in with Doctor Croft's hypothesis. The results quoted in his paper are altogether too startling to justify its rejection. On the other hand, Doctor Croft's method of treatment is one of the best we have ever seen. It meets the indications and is justified by the results.

If we were called upon to outline a method of treatment—one that is based on the one hand upon the recognition of the infectious character of the disease and on the other on a full recognition of the importance of the epidemic factor—it would be somewhat as follows:

Prophylaxis.—We would insist upon the following things:

1. Segregation.
2. Disinfection of the nasal passages and throat with some effective germicidal agent, our choice being for chlorazene and dichloramine-T, or the combined use of the two.
3. Vaccination with Rosenow's influenza-pneumococcus-streptococcus vaccine, or one very similar to it.

Treatment of the Disease.—We would follow closely Doctor Croft's outline:

1. Put every patient to bed, even when slightly ill.
2. Complete abstention from food for at least 48 hours—longer if the disease is severe. An abundance of hot drinks for diuretic and diaphoretic effect.
3. A daily cathartic, supplemented if necessary by enemas. To this, we would add the routine use of an intestinal antiseptic.
4. Avoidance of all depressing and secretion-checking drugs. Opium in all forms is contraindicated. Sparing use of salicylates. No coaltar antipyretic.
5. Careful stimulation to meet emergencies. Digitalis, strychnine and camphor probably are the most useful drugs for this purpose.
6. Respiratory antisepsis with iodized calcium, which also loosens secretions.
7. Finally, the judicious use of influenza-, pneumonia-, and allied bacterins (being careful not to use over-dosage) supplemented by nuclein, to stimulate leukocyte production and overcome the leukopenia characteristic of the disease; also, type-I-pneumococcus serum when indicated.

This outline of treatment is submitted for consideration and criticism. Out of the richness of your experience, we ask you, Doctor, to consider it after a study of all the articles on influenza published in this issue, and to give us a letter of suggestion, admonition or advice, for publication in our January number.

When you buy War Savings Stamps you do not give—you receive.

IS "FLU" INFLUENZA?

In a communication appearing among the leading articles of this number, Dr. Albert J. Croft, of Chicago, voices dissent from the prevailing idea that the influenza pandemic, designated as "Spanish Influenza," is really influenza, or, indeed, an infectious disease at all. His observations and cogitations have led him to the conclusion that, if our scientists were to make a careful chemical, biological and meteorological survey of the countries now affected by the socalled influenza, some irritated conditions of the atmosphere would be found that would account for the cause and rapid expansion of this ailment.

Doctor Croft believes that atmospheric and meteorological disturbances were created by the poisonous gases used on the battle fields, by the liberation of ground-air high in carbon-dioxide content through the digging of trenches, by the gases from decomposing bodies of men and animals and those set free by the destruction of cities and ammunition dumps; that these may have combined a form of gaseous compound with highly toxic properties, probably due to the rearrangement of molecules by the tremendous concussion produced by high explosives. Consequently, Doctor Croft views the condition termed influenza as in reality a nonbacterial and noncontagious disease caused by the inhalation of small amounts of a depressing, highly irritating, high-density gas present in the atmosphere, especially at night and when the air is surcharged with moisture, more particularly near the surface of the earth.

At variance with Doctor Croft's ideas are most publications on the subject of the pandemic, as is evidenced for instance in the interesting study of the disease pre-

sented by Doctor Goldstein, also in this issue. Bacteriologists and laboratory workers undoubtedly have isolated a considerable variety of microorganisms from the secretions of patients ill with socalled influenza. While many failed to discover the Pfeiffer bacillus, it has been claimed that this is to be ascribed to faulty methods of cultivation since the influenza bacillus does not grow on the ordinary blood-agar medium but this requires partial hemolysis in order to present a suitable nutrient and pabulum for the influenza bacillus.

While, undoubtedly, Doctor Croft's "minority report" is interesting and even may possess a degree of verisimilitude, we are impressed with the fact that, as far as our personal experience goes, the cases of influenza studied all presented the characteristic signs of a bacterial infectious disease. There can hardly be a doubt as to its high communicability, while the succumbing or resistance to the disease in many instances seems to have been a matter of exposure or nonexposure. Already we have attempted to offer explanation of the fact that robust and vigorous young persons fell victim to the disease more readily than did feebler persons. That does not mean, however, that the latter did not become affected at all, indeed, the disease attacked indiscriminately. On the other hand, there is this marked and surprising point of difference from prior epidemic of influenza, that small children and older people seemed to be almost immune, the patients ranging in age mostly from later childhood to vigorous manhood and womanhood up to 40 years of age. The youngest patients of whom we have personal knowledge were children five years old. Among our elderly patients, none acquired influenza.

While, therefore, there are several points that are strange and unexplained in the epidemiology of this Spanish influenza, we are inclined, personally, to view it as an infectious malady and we are confirmed in this opinion by the prompt and effective results of biological methods of treatment. We are of the opinion that this view of the problem is safest provided that it is followed to its logical consequences. Certainly, we are impressed with the fact that, of those well people who were immunized fully with a suitable vaccine, only an exceedingly small number became ill with influenza and then only in a slight degree, recovery being prompt and uneventful.

In view of the fact that a second epidemic or a recurrence of the same epidemic is announced in Europe and probably will reach the United States in a few weeks' time, we believe that the safest advice is, to urge physicians to immunize their clients and friends as thoroughly as possible, while not neglecting the precautions of antiseptic nasal douches and gargles, and in this manner to protect as many persons as possible against the disease.

I have always thought of Christmas time, when it has come round, apart from the veneration due to its sacred name and origin, if anything belonging to it can be apart from that—as a good time; a kind, forgiving, charitable, pleasant time.

—Charles Dickens.

INFLUENZA'S TOLL OF DEATH

The Bureau of the Census in Washington is publishing from week to week the mortality reports from the larger cities in the United States. It has now summarized the mortality from influenza and pneumonia in the nine weeks from September 14 to November 9 inclusive. This, of course, does not include all of the deaths from influenza and its complications, because the epidemic still is virulent in many parts of the country; also, because reports are given only of the forty-six largest cities, including probably from 35 to 40 percent of the total population of the United States.

We learn, however, that, during this period and in these cities, there were 82,306 deaths from influenza and pneumonia. The highest number of deaths in any city was that in New York where 19,357 people succumbed. Next on the list was Philadelphia, with 12,665 deaths. Then came Chicago, with 8,275; Boston, with 4,355; Baltimore, with 3,685; Buffalo, 2,105; New Orleans, 1,978; Washington, D. C., 1,961; San Francisco, 1,903; Cleveland, 1,898; Newark, 1,636; Los Angeles, 1,214; and St. Louis, with 1,061 deaths.

The city having the highest rate of mortality was Philadelphia, with 7.4 deaths per 1000 population. Next was Baltimore, with 6.7; Fall River, 5.9; Nashville, 5.7; Boston, 5.4; New Orleans, Pittsburgh, and Washington, 5.1; Buffalo, 5.0; Lowell, Mass., and New Haven, Conn., 4.9; Cambridge, 4.8; Albany, 4.6; Providence, 4.4; Dayton, New York and Richmond, 3.9;

San Francisco, 3.8; Newark, 3.7; and Chicago, 3.2 per 1000 inhabitants.

On November 9, the last date given, the number of deaths from influenza and its complications was rapidly subsiding in most parts of the country, although it was still large in many important cities. In a few western and southwestern cities, it was increasing, and unofficial reports state that it is still spreading in many country localities. In a few cities, there was a subsidence of the disease, then a reappearance with increased mortality.

It is as yet impossible to say how many deaths from pneumonia have occurred in our military and naval camps, but, we do know that, thus far, the mortality has been far in excess of the deaths from wounds on the battlefields of Europe. At Camp Devens in Massachusetts, Camp Grant in Illinois, Camp Custer in Michigan, and Great Lakes Naval Training Station near Chicago, the Great Reaper has claimed his thousands. If we add to the number of deaths in the army and navy the additional and thus far unrecorded deaths in the civil population, it is safe to say that influenza has claimed thus far between 200,000 and 250,000 victims in the United States.

And the end is not yet. While the first virulence of the disease has passed, there still occur many thousands of sporadic cases in all parts of the country, and there are indications that soon another wave of the epidemic will sweep over the country. While we do not believe that it will be as serious in its results as the first wave, mainly because we now understand the disease better and know better how to deal with it, we do feel that it is likely to be a serious menace to the health of the nation during the coming winter, and that every physician should be fully prepared to cope with it.

Peace is the happy, natural state of man; war his corruption, his disgrace. —Thomson.

VACCINATION AGAINST INFLUENZA

In certain quarters in this country, there has been a disposition to throw serious doubt upon the value of bacterial vaccination either for the prophylaxis or treatment of Spanish influenza. This writer believes that this holding back for definite "proof" is unwise and harmful. There is already evidence enough that bacterial vaccines are of exceeding value, particularly as prophylactic agents.

While some of our "authorities" in the United States are discussing this problem, over in England there has been official endorsement and adoption of the vaccine treatment. Thus, in *The British Medical Journal* for October 26, we find a report of an important meeting held in the British War Office on October 14, 1918, at which it was decided to adopt and utilize the bacterin treatment, both for prophylaxis and curative treatment. This meeting was presided over by Col. Sir William Leishman. The Director-General of the British Army Medical Service was present, and in his address to those in attendance spoke of the "great and urgent importance of their endeavoring to formulate a definite recommendation as to the employment of vaccines in view of the probability of an extension of the epidemic of influenza."

Among the things agreed upon at this meeting were the following:

The majority agreed that the bacillus influenzæ was usually present, but, there was some doubt as to its primary etiologic significance; and the incidence of some yet undiscovered virus was regarded as possible.

It was agreed that the other organisms usually found and chiefly responsible for the pulmonary complications are pneumococci and streptococci.

It was unanimously agreed that inoculation with a suitable vaccine might be expected to be of value both in the prophylaxis and in the treatment of the disease.

It was agreed that the three following organisms should be employed in this vaccine: The bacillus influenzæ, the pneumococcus and the streptococcus; also that a number of different strains and types of each organism should be utilized in the preparation of the vaccine, these organisms to be taken from cases occurring during the present epidemic.

For prophylaxis, it was agreed to use a combination of these organisms in the following dosage: First dose,

Bacillus influenzæ	30 million
Pneumococcus	100 million
Streptococcus	40 million

the second dose to be double that of the first dose. This vaccine was to be sterilized at a temperature of 55° C. maintained for

half an hour; 0.5 percent carbolic acid to be subsequently added as an antiseptic.

Wherever possible, both doses of this vaccine should be employed, and at 10-day intervals.

It was thought that the reaction to be expected from this vaccine would, in the majority of cases, be either trivial or absent altogether.

It was also agreed that, where possible, the individual should be vaccinated prior to exposure to infection, but, that there was no objection to its employment after exposure, although considerable care should be employed if the dose is to be given to a person apparently coming down with the disease, in which event a smaller dose was recommended.

Children under three were not to be inoculated. For older children the following proportionate dosage was suggested: From 3 to 7 years, one-fourth of the full dose; 7 to 16 years, one-half of the full dose; above 16 years, the full dose. For colonial troops the dosage was also reduced somewhat.

In the treatment of the actual disease, the opinion was expressed that the vaccine is most likely to be of service in the treatment of subacute and chronic cases. In these cases, the initial dose recommended was one-fifth of the full dose already described.

In severe cases of secondary bronchopneumonia, the vaccine was not recommended, but, if it is desired to try it, it was advised that the initial dose should not exceed one-twentieth of the first dose recommended above.

In the United States, it has become the practice to give much larger doses than those recommended by our British colleagues; for instance, Rosenow, of the Mayo Foundation, recommends an initial dose of about 2 billion organisms, his formula including also the staphylococcus in addition to those recommended in England. The second dose, given after an interval of a week, is double the first dose, and the third dose is still larger. Despite the large dosage recommended by Rosenow, the reaction as a rule has been very slight, and in many cases altogether absent.

Rosenow has found that, even when the bacterin is given to persons coming down with the disease, no serious harm has resulted. The reaction, however, is prone to be severe and followed in the majority of instances by rapid subsidence of the acute symptoms of the disease.

The results obtained by Rosenow and others with the prophylactic vaccination certainly have been startlingly good. We refer our readers to the paper by Doctor Alder published on another page of this issue. We also request those who have had extensive experience with the vaccine treatment to report results.

Never deny the babies their Christmas! It is the shining seal set upon a year of happiness. Let them believe in Santa Claus, or St. Nicholas, or Kriss Kringle or whatever name the jolly Dutch saint bears in your religion. —Marion Harland.

KEEP YOUR LIBERTY BONDS

The Fourth Liberty Loan Drive has barely been concluded, and most of us have engaged our resources for several weeks to come in order to liquidate the obligations that we assumed and to provide sufficient funds for the government to meet the expenses incidental to our participation in the war. The manner in which the government has raised the needful sums constitutes an investment for the people that, while producing only a small return in interest, has the great advantage of being absolutely sound and proof against all vicissitudes of fortune. The holders of Liberty bonds, no matter of what series, have in their possession an unfailing source of income and one that can be counted upon without fear of disappointment. Whether the individual may possess only one bond or many, the investment is perfectly safe and in all probability will increase in value in time.

Frequent warnings have been voiced recently against disposing of Liberty bonds and advising their holders to preserve these bonds carefully until their full maturity. On the other hand, speculators frequently offer to take Liberty bonds in payment for other obligations and they even encourage the exchange of Liberty bonds for participation in speculations and investments that, while promising larger returns, are not nearly as secure as are these "promissory notes" of Uncle Sam.

We wish to insist strongly that, whoever is the fortunate possessor of Liberty bonds, should keep them in his possession at all cost and should meet the payments promptly and not sell them under any circum-

stances. We realize that contingencies may occur when ready money is urgently needed. The sale of Liberty bonds under those circumstances would not only be foolish and wrong, because it tends to depreciate their market value, but it would be entirely unnecessary for the reason that Liberty bonds constitute an excellent collateral upon which any bank will be ready and willing to advance money by way of loan. We have said that the market value of Liberty bonds may be depreciated if many of them are thrown on the market. That, of course, can be true only for a time and never will interfere definitely with their ultimate value since the United States Government eventually will recall all bonds at their face value and always will meet the interest payment promptly.

We look forward to the Fifth Liberty Bond issue which will be necessary in order to enable the government to meet the obligations of demobilization and other expenses connected with the winding up of the war business. Whatever we have said regarding the prior Liberty bond issues will apply with equal force to the next. We should hold ourselves in readiness to subscribe liberally and largely to any funds that the government calls for, for carrying out its obligations incurred through the war. We should support the government whole-heartedly and enthusiastically and even now prepare to participate in any loan—whether it be raised under the old name or as "Victory loan"—that may be called for.

The man who loves home best, and loves it most unselfishly loves his country best.
—J. G. Holland.

PLURIGLANDULAR THERAPY

Recently, we received from Dr. Henry R. Harrower, of Glendale, California—well known to many of the readers of CLINICAL MEDICINE—a copy of his booklet titled "Pluriglandular Therapy." From a hasty reading of its contents, we gather that by this term is meant the bringing to the foreground of the close interrelation subsisting between all the various secretions of the endocrine glands. From a therapeutic standpoint, this means, the use of combinations of various gland extracts, or, as Harrower calls it, "synergistic organotherapy."

Thus, for instance, the same patient who requires thyroid extract may and probably (if a woman) does, need stimulation of the ovarian function. Just as combinations of iron, quinine, and strychnine are better (perhaps) than the various constituents used separately, these combinations of these gland substances serve better than the separate substances.

Working upon this theory, Doctor Harrower has devised a considerable variety of gland combinations, which are being put on the market in standard combinations, combinations designed to meet a great variety of conditions. If you are interested in this subject and wish to delve more deeply into it, we advise you to write to Doctor Harrower. And, by the way, the Doctor is publishing a very interesting little magazine, which he calls *The Organotherapeutic Review*. You should request a sample copy.

ARE LABORATORY OBSERVATIONS INFALLIBLE?

We have repeatedly, in these columns, warned against the unreserved acceptance of the results of laboratory-observations for conditions confronting the clinicians at the bedside, and only recently have pointed out (October issue, p. 809) that any observation made in the laboratory always requires confirmation by the clinician, if it is to be of actual value. In this, we are supported by opinions voiced by many clinicians, and even by some laboratory research-workers; and it has come to be recognized almost generally that laboratory-research must be controlled and guided by the clinician, in order to be acceptable.

It is, therefore, somewhat startling to read in an article recently published by a noted New York clinician, the following opinion expressed:

"A discovery that is founded upon laboratory-observation can be immediately accepted by the medical profession and applied without any discussion or debate. A discovery founded upon clinical inference must always be a matter for speculation and question by many observers, and holds its place only by very insecure tenure. Later on, the laboratory may discover a basis for the remedy, and then it takes its place in established practice."

The author of the article from which the foregoing paragraph is taken, continues by declaring that in this way ipecac has been

employed for many years in the treatment of dysentery, while only of late has the discovery of the ameba put this practice upon a definite basis.

This point of view is as astonishing as it is incorrect. One might conclude from it that laboratory-findings are infallible and can not be appealed from. And, yet, it happens time and time again that the pronunciamentos even of noted and leading investigators are disputed and, indeed, refuted by others, even though they may be founded upon careful and exact laboratory-investigation. We need only recall the animated discussion following upon the first publications by Sir Almroth Wright concerning the opsonins. Before that time, and afterward, the agglutinins, precipitins, and other immune-substances were considered by certain research-workers and clinicians as indicative of an existing immunity, while this was being strenuously denied by others. To be sure, in the last few years, the consensus has been that all immune-substances do indicate the existence of an immunity and that their discovery in a given serum must be explained in that sense.

If conclusions founded upon laboratory-observation never had to be revised or even retracted, it might be possible to accede to the dictum quoted in the foregoing. But, unfortunately, the conditions under which laboratory-observations are gained are only less subject to variations, only less guided by unknown factors than are those of clinical observers. Indeed, the greatest source of error in clinical observation, namely, the unknown factor resting in the individual peculiarities (both physical and psychical) of the patient, by no means is absent in the laboratory, since it has been found that even guinea-pigs of the same litter and of the same approximate weight respond differently to identical treatment. Moreover, in certain ways, the investigation regarding the action of drugs must, necessarily, be misleading to the clinician, if it is to be based upon laboratory-observation so as to be unconditionally acceptable. To cite only one instance, experiments have been published in which expectorant drugs failed to increase bronchial secretions in healthy dogs. Yet, we venture to say that there is no clinician that is willing to act upon this observation and to eliminate expectorants from his armamentarium when he desires to increase the bronchial secretions in a given patient.

We had been under the impression that there no longer is any illusion concerning the entirely limited value of laboratory-observations, great though they admittedly are. It is unfortunate that time and again laboratory-research is placed upon a higher plane than is clinical observation, and it should never be forgotten that even the most exact laboratory-results can be of value only after they have been confirmed and substantiated by clinical observation.

I love my country's good, with a respect more tender, more holy and profound than my own life.
—Shakespeare.

THE VOLUNTEER MEDICAL SERVICE CORPS

The Council of National Defense authorizes publication of the following information:

Interest among the members of the medical profession as to how their services are to be utilized in the Volunteer Medical Service Corps, once they have been enrolled and have put on the badge that indicates their willingness to serve and readiness to respond to a request from the Surgeons-General of the Army, the Navy or the Public Health Service or from the Provost Marshal-General or from the General Medical Board of the Council of National Defense, has led to the announcement by the Central Governing Board of the basic system of classification for the organization. The lines on which the classification is made were determined by the Committee on Classification of the Central Governing Board, and whose report was adopted. This Classification Committee has on it representatives of the Army, Navy, Public Health Service, Council of National Defense, American Red Cross, Hospital, Colleges, Civilian Doctors, War Industries.

A summary of these classes follows:

Class I.—These will be the physicians first recommended by the Central Governing Board, to apply for commissions in the Medical Reserve Corps of the Army, Reserve Force of the Navy or for appointment in the Public Health Service. They include physicians under 55 years of age, who are without any obvious physical disability that is disqualifying and who have not more than one dependent, in addition

to supporting themselves; or who have an income or whose dependents have an income sufficient for the support of dependents, other than that derived from the practice of their profession.

Several exceptions are provided for with reference to evident essential needs. Whether a physician's services are essential to his community will be established by the Central Governing Board, or recommendation of representatives of the Board appointed by it to make a survey of local conditions. Whether a physician is essential to an institution with which he may be connected, will be established after conference between representatives of the Central Governing Board and representatives appointed by governing bodies of the institutions concerned. Similarly, the question of whether a doctor is essential to a health-department will be established by conference between the Central Governing Board and the head of that health-department. The question whether a teacher in a medical school is essential to that position will be established by the Central Governing Board and representatives of the institution. Conference between the Board and accredited representatives of industries concerned will determine whether doctors employed as industrial physicians are essential in those positions. A physician essential on his local or medical advisory board will not be disturbed.

Class II.—In this class will come physicians under 55 years of age and who are without any obvious physical disability that is disqualifying, and who have not more than three dependents in addition to having to support themselves. These will be recommended by the Central Governing Board, when the needs exists, to apply for commissions.

Exceptions in Class II are the same as in Class I.

Class III.—These embrace physicians under 55 years of age that are without any obvious physical disability that is disqualifying, but who have more than three dependents in addition to having to support themselves; and they are the physicians included among the exceptions from Classes I and II, namely, those essential to communities, institutions, health-departments, medical schools, and industries. They will be recommended by the Central Governing Board to apply for commissions when the emergency is so great as to demand their services.

Class IV.—In Class IV will come those physicians who are ineligible for commissions in the Medical Reserve Corps of the Army or the Reserve Force of the Navy, but, who are available for all other services. The physicians in this class include those over 55, those having an obvious physical disability that is disqualifying, and those rejected for all government services because of physical disability.

Physicians not professionally eligible for the Medical Reserve Corps of the Army or for the Reserve Force of the Navy or for appointment in the Public Health Service will be recorded, but, not admitted to the Volunteer Medical Service Corps.

Applications for enrollment in the Volunteer Medical Service Corps continue to come in from physicians from all over the country and by every mail to the headquarters at the Council of National Defense Building. These are being classified as rapidly as possible. Representative physicians from various parts of the country are assisting in the work of classification.

State Executive Committees, enlarged to handle the work of the Volunteer Medical Service Corps, are perfecting the organizations in their states, and county representatives have been appointed in practically every county in the country. Group meetings are being held in many of the states, at which the State Executive Committees and county representatives are being addressed by members of the Central Governing Board of the Volunteer Medical Service Corps.

Peace won by compromise is usually a short-lived achievement. —Winfield Scott.

THE AMERICAN RED CROSS

During the month of December, the Second Christmas Membership Campaign of the American Red Cross will be inaugurated with the avowed object of enrolling every man, woman and child residing in the United States in a universal membership. The present members will be invited to renew their active association with the Red Cross, and new members are to be enrolled wherever possible excepting among the men in military and naval service.

It would be supererogatory to recite over again, even in a fragmentary manner, the

wonderful work accomplished by the American Red Cross, not only in association with the Red Cross Societies of Europe and other countries (notably the Japanese Red Cross) but, also, in its individual unaided efforts to relieve suffering and want, more especially in Belgium and in Servia. Nor should we forget the readiness and promptness with which the Red Cross responded to the call for aid immediately after the Halifax disaster and, in short, the constant untiring readiness which this organization manifests wherever the energy and resources of communities or nations have met with adversities; wherever suffering is to be alleviated and want relieved.

It seems a matter of course that physicians should be closely associated with the Red Cross by virtue of their calling. Yet, it appears that there are many medical men so preoccupied with their immediate professional duties and interests as to defer cooperation with the Red Cross, possibly in a spirit of "letting George do it." We want to urge upon all readers of CLINICAL MEDICINE, not only the urgency of the existing problems confronting the Red Cross, but, also the fact that cooperation with this work is less a duty of physicians than, rather, a privilege to which they are entitled, being members of the healing profession. We want to see every physician, every physician's wife, and father, and mother, and brother, and sister, and son, and daughter, enrolled in the American Red Cross. The actual cost in money is slight. The potential good accomplished by such a universal membership is immense. Let us all join in.

Ah! when shall all men's good be each man's rule, and universal peace lie like a shaft of light across the land. —Tennyson.

WAR SAVINGS STAMPS

As we are preparing this issue of CLINICAL MEDICINE for the press, we are reminded that, on Thanksgiving Day, a renewed campaign is to be inaugurated looking to the sale of large quantities of War Savings Stamps. Physicians do not need to be reminded that, with the signing of the armistice, and the cessation of hostilities, a few weeks ago, the country's expenses incidental to the war by no means have been eliminated. Indeed, it is self-evident that, at the present time and in the immediate future, the Government stands in urgent need of enormous funds to carry on the work of demobilizing, of industrial and economic reconstruction, and so forth; and, also, to meet the obligations toward the European nations that our participation in the war has thrown upon us—and still more that have been incurred by us voluntarily by virtue of our readiness and willingness to aid and alleviate the suffering and want of nations wherever we might be of assistance.

While much of this work will be undertaken by the American Red Cross, there are great and onerous duties to be solved by the United States government and, for this, it stands in need of funds that should be provided spontaneously, willingly and cheerfully by the people, individually—not, by taxes.

There have been four issues of Liberty Bonds to which the nation has subscribed liberally. We are told that, soon, we shall be asked to subscribe for a fifth and, perhaps, a sixth issue. There is, however, another means of loaning money to the Government, in small sums, a method that is available to people who can not invest even $50.00, but, who yet would be glad to contribute and give their mite toward the great humanitarian and needful work that our country is accomplishing. We refer, of course, to the War Savings Stamps.

The sale of War Savings Stamps should meet a ready response by high and low, rich and poor. It not only provides means that are immediately available for necessary expenses on the part of the Government, but, it is a method for the man and woman of slender income to put by a little money and exercise thrift in small things; at the same time it supplies a valuable lesson in habits of thrift, of economy and of saving. Investment in War Savings Stamps is sound and remunerative. The loan advanced in the purchase of these stamps will be repaid in the course of a few years with interest and, through this system of raising funds, the Government will have benefited the individual citizens of the country in many ways by inducing them to economize and to save.

Leading Artieles

The Socalled Influenza Epidemic*

A Plausible Theory as to the Etiologic Factor With a Presentation of the Therapeutic Measures Employed in the Successful Treatment of Over Five Hundred Cases Without Mortality

By ALBERT J. CROFT, M. D., Chicago, Illinois

IN the preparation of this paper, I have had but one thought in mind, namely, to present in plain terms my observations on the socalled influenza epidemic.

When everybody from a baby to an adult greets you with, "Doctor, I've got the flu," it is reasonable to assume that some widespread etiologic condition exists. The rapidity of extension of the pandemic throughout the world certainly has demanded of the practitioner quick thinking and decisive action, no matter whether the cause is psychic or material, in order to obtain satisfactory results. To assume a "watchful waiting" pose, pray the rain to lay the dust, try out a new vaccine, or wait for science to wrangle about the cause, is, to increase the mortality rate.

It has been proved that laying the dust does not reduce either morbidity or mortality, that vaccines have given little aid, and that science still is hopefully working in the laboratories.

When scientific abstractions have failed us at critical moments, we of necessity must come back to earth, shoulder the burden and in our own practical way treat each case as intelligently as we may, so far as possible giving immediate relief and comfort to our patients.

We are told that the present epidemic is influenza, a virulent type of the old fashioned grip, imported to our shores from the battlefields of Europe, the quiet cities of neutral countries and the agitated centers in Germany. Even if this theory is correct, still, I plead for decisive action in treatment of all cases in order to prevent the endemic and sporadic outbreaks which are sure to occur for several years to come.

Having impressed upon your minds the necessity for immediate, practical treatment of all cases as you understand them regardless of the scientific theories which are now in vogue, I wish to present to you my observations in over five hundred cases of the "flu" epidemic and also to submit to you a theory as to the cause of the disease.

Present Epidemic Not Influenza

I am convinced that the epidemic now visiting our country and other parts of the world is not true influenza. This may seem rather a bold assertion for a general practitioner since our scientific brethren already have christened it, but, where are the facts upon which they have based their conclusion that this is an influenza epidemic? Up to the present time, they have given us no tangible evidence. I will go still further in saying that this pandemic really never has been positively identified. In the absence of proofs, should we accept their dictum in regard to their biological treatment and discard the knowledge gained in therapy during a lifetime of practice?

The cause of the malady, whether biologic or chemic, originated in the camps and trenches of Europe. There, the convenient term of "influenza" was first adopted for reasons still obscure to us. As the disease spreads, we see creeping into the literature the terms "Spanish influenza"

*Paper read before the Douglas Branch of the Chicago Medical society, November 13th, 1918. Discussion opened by G. Frank Lydston, M. D.

and "German influenza" because of its prevalence among Spaniards and Germans and not because of any type-differentiation, etiologic factor, specific symptomatology, or such. As it affected a few other nationalities, we have had, since then, the Portuguese influenza and the South African influenza and, mixed in here and there, a few cases of Irish influenza.

In its spread to the new world, we at first nursed the most original type, the "Spanish influenza"; but, being Americans, we had to drop the word "Spanish" and simply called it the "flu", and American influenza. Our Southern neighbors, the Brazilians, refused to accept it as an influenza epidemic; so different had the medical profession of that country considered the phenomena from the wellknown Leichtensternian types.

The Deplorable Fear of Influenza

It is regrettable that the notoriety given these phenomena under the guise of a serious influenza epidemic has caused a great deal of unwarranted fear in the minds of the people, which has materially weakened their already depressed war-time nerves to such an extent that they have become easy victims to pneumonia and other diseases. Indeed, when we are called to see a patient, we invariably find an excited household and the first important obstacle to overcome in the patient is, a general nervous breakdown from fear due the belief that he is an influenza victim and, therefore, a sure candidate for the graveyard.

Relieve and ease his mind of the influenza panic by diverting his thoughts into more pleasant channels and refusing to accept offhand the family diagnosis of "influenza", and you will have defeated the greatest menace of this malady.

As to the Bacterial Etiology

In regard to the etiologic factor, we are informed that some investigators hold a micrococcus responsible for the assault while others attach the guilt to members of the bacillus group. It is a proven fact that all previous epidemics of influenza vera were attributed to the very minute bacillus of Pfeiffer. This organism, however, so difficult to seed on the usual microbial foods, presented difficulty in isolation. Nevertheless, it was found to be constant in 20 to 50 percent of all cases according to Rosenow of the Mayo Foundation. Have our scientists been able to isolate the Pfeiffer bacillus in the majority of cases of this epidemic? If they have failed to uniformly associate this organism with the condition, why call it influenza? So far as a specific bacterial theory is concerned in this epidemic, I have been unable, so far, to credit it. Is it not possible that the normal bacterial flora of the nose and throat has gained ascendence in this epidemic? It is natural to assume that the bacteria habitually present find good soil for growth and transformation into pathogenic types in a frightened, physically exhausted, nervous individual. I believe that they are very important as a secondary factor and that the increase in deaths from pneumonia may be attributed to this cause.

The Author's View as to Etiology

In the absence of positive proof of a specific bacterial cause and after due and careful consideration of the course and symptomatology, of the many cases under my observation, I have arrived at the conclusion that, if our scientists were to make a careful chemical, geological and meteorological survey of the countries now affected by the socalled influenza, some irritated condition of the atmosphere would be found that would account for the cause and rapid extension of this ailment.

The numerous gases used on the battle fields of Europe with their highly poisonous properties, the liberation of a large quantity of ground-air high in carbon dioxide content due to trench systems, the gases from decomposing bodies of men and lower animals, and those set free by the destruction of cities and ammunition dumps during the last few years, may have combined to form a gaseous compound with highly toxic properties probably due to the rearrangement of molecules by the tremendous concussion produced by high explosives. With this idea in mind, I am going to advance the theory that the condition termed influenza, is in reality a non-bacterial, non-contagious disease caused by the inhalation of small amounts of a depressing, highly irritating, high-density gas present in the atmosphere, especially at night, and when the air is surcharged with moisture, more particularly near the surface of the earth.

That vegetation has suffered likewise from this "gas poisoning" which has im-

pregnated the atmosphere of our cities, may be recognized by the significant statement of an old farmer, residing in Marinette County, Wisconsin, who, on noting last August the feeble and withered condition of his crops without any apparent cause, made the following unusual remark: "When vegetation perishes under favorable conditions for growth, it may be taken as a sign of trouble for the people." This farmer, accustomed to recognize the relation between nature and its creatures, saw in the withered vegetation occurring under favorable conditions a premonition of impending disaster. He felt that, if no usual causes could be found which would explain the perishing of his crops, there must be something lying low in the atmosphere which surrounded his plants and, therefore, encompassed all living things. The late Michigan peach crop this year has been a complete failure and there are reports of similar crop failures throughout the country during the socalled epidemic. I do not wish to be quoted as saying that I attribute these crop failures throughout the country to a gas poison of definite composition, I have simply asserted the possibility and I am going to leave the theory of a gas-poisoned atmosphere to those who are well versed in chemical detection of gases and in geological science, to prove or disclaim what seems to me a plausible theory.

Some Epidemiologic Facts

The disease which we are now combating has been characterized by very rapid dissemination. This rapidity, although beyond the limits of human conveyance, has been one of the dominant factors in terming it influenza. If, perchance, diarrhea had been a prominent symptom, the term "cholera" probably would have been substituted and, instead of an influenza epidemic, we would have scared the population into a cholera epidemic.

Sneezing, coughing and spitting are the principal means of dissemination, we are told, yet, large sections of Chicago and many suburban towns have escaped the epidemic. The distributing center of infection in a large city during an epidemic usually is the crowded downtown district where people from all parts congregate. Yet, it is significant, that, although all were equally exposed, the northern and southern portions of the city were the most seriously affected. This unusual distribution is not characteristic of a bacterial epidemic nor of contact infection. If by sneezing and spitting the atmosphere had become laden with germs and if these organisms were really influenza germs, they, being the smallest recognizable bacilli, must be undoubtedly the lightest; hence it is natural to assume that they would have floated all over the city and a great diffusion of the disease should have occurred. On the other hand, a gas of great density with a clinging molecular composition would hang high during the day and low at night because of the slow nocturnal winds. Its clouds would not be so easily shifted, yet, their distribution would vary with the wind currents, hence, areas more circumscribed would be affected—as has been the case.

A Poison-Gas

The apparent immunity or susceptibility of people to the disease depends on whether or not they come in contact with the gas. The weakened and diseased individual, the healthy and robust individual, the male and the female of the species, the young and the old, all are possible candidates if caught in the path of the gas. The severity of action, however, should depend upon the amount of gas absorbed, the state of health at the time and, consequently, the power of the body to neutralize its effects, but, paradoxically, that "the weak die first" has not been the rule in this disease. Indeed, the greatest number of its victims have been big, apparently strong, well nourished persons.

Previous to the heavy rain fall, members of the fire department were ordered to sprinkle the streets at night in order to keep the dust down, it being the prevailing idea that settling the dust would prevent the further spread of the disease. One hundred and twenty members of this "dust squad" became victims of the disease during the three days that followed.

There are no predisposing factors as far as sanitary conditions are concerned, since the disease has caused considerable worry to our more fortunate wealthy brothers living under favorable sanitary conditions.

The mode of transmission is undoubtedly through the agency of the atmosphere, hence, I do not believe that personal contact is responsible for such a rapid, irregular spread, when countries having slight relations with infected countries have been visited with the epidemic. Of especial in-

terests are, the outbreaks occuring among the Eskimos of the far north and the natives of Patagonia in the far south.

Concerning the Symptoms

The pathologic phenomena involve not only the respiratory tract but also the alimentary, vascular and nervous systems. Involvement of these systems seems to occur during part or the entire course of the disease and with such constancy that it is impossible to recognize the three well known clinical types of influenza.

The irritating substance which gains entrance into the body, either through the nose or the mouth, produces in its wake a hyperemia the degree of which depends upon 1, the quantity of the irritant absorbed; 2, the condition of the system at the time of absorption.

If the irritant has been taken through the nose, the lining of that organ becomes hyperemic and a decided coryza may result. In the great majority of cases, however, the catarrhal condition is absent and replaced entirely by bleeding of the nose.

The upper portions of the tract including the buccal cavity, pharynx and soft palate are then affected and, as the cause spreads downward, hyperemia of the trachea and bronchi occurs although the smaller bronchioles and grosser structures of the lungs seem to escape during the course of an uncomplicated attack.

The severe tugging in the chest complained of by the majority of patients seems to be due to a greater degree of hyperemia at the bifurcation of the trachea and junction of the large bronchi, due to the mechanical resistance offered at that point.

The irritating substance seemingly affects the pneumogastric, causing nausea and vomiting especially as the esophagus seems to escape the hyperemia, there being no clinical evidence of such involvement.

I am of the opinion that a simple, chemical, non-bacterial hyperemia in different degrees of severity is the initial structural phenomenon to which many secondary changes owe their origin. This is the nucleus, the starting point for bacterial invasion; because of the action of the irritating substance upon the tissues, the hyperemic parts are damaged to a varying degree and suitable conditions for bacterial growth become established.

I repeat, that chemic hyperemia is the cardinal initial pathologic change. If this is slight, no further changes may occur excepting those produced by the absorption of the gas. On the other hand, if considerable, edema of the larynx, trachea, bronchi and of the lungs develops, and death may ensue from exhaustion or edema of the lungs and not from an extensive bronchitis. The considerable engorgement of the vessels of the neck and the severe hemorrhages which occur in some cases are due to the mechanical exertion caused by the edematous condition of the lungs and not by any pneumonic inflammation.

In all cases, the poison and the secondary bacterial toxins seem to affect the nervous system giving rise to a general constitutional breakdown and a rapid lowering of the vitality. It is during this period, that inflammation of the bronchial tubes becomes dominant. The middle ear, the frontal and ethmoidal sinuses may become involved by extension. The sputum is mucopurulent and of grayish yellow color, and bacteriologic examinations in all cases proved to be negative for the Pfeiffer bacillus. Occasionally the sputum is tinged with bright red blood which is due to the congestive condition of the respiratory tract.

The Furred Tongue

The most pathognomic sign is a "furred tongue"; this you will find to be very constant and occurring not only in those who are already sick but in those who are likely to be attacked. It seems to appear one or two weeks before the onset. The furred condition is chiefly located in the posterior part but extends anteriorly. At first it is of a peculiar yellowish brown or white; later in the course of the disease the color becomes dark brown with a yellowish green tinge and will not respond to the usual treatment for gastric disturbances.

During the examination of conscripts, I have made a point to determine the condition of the tongue. In one group of twenty-five men examined, I was able to detect the "furred" tongue in eighteen; in thirty-four men examined, thirty-two showed "furred" tongues; in forty examined, twenty-eight showed "furred" tongues; the degree of coating varying with atmospheric conditions. Recently, I was able to record fifty-four "furred" tongues out of fifty-seven examined. On this day, the atmosphere conditions seemed to be very depress-

ing. The day was dark and gloomy and a heavy, cold mist hung over the city.

I shall refer here to other symptoms in a general way as time will not permit of extensive descriptions, but I wish to emphasize the fact that the furred tongue is the best indicator for the general practitioner and I believe that, if stress were laid on its significance and a general adoption of "have your tongue examined" were instituted among the populace with the object of warning the individual showing a positive picture, the prevalence of "flu" would be markedly reduced.

The Symptomatology

As a matter of convenience, the cases may be grouped under two heads, namely, 1, a non-febrile type, characterized by the absence of fever providing no complications develop, and 2, the febrile type, characterized by rapid rise in temperature which may be due to the absorpton of the gas, the changes being directly associated with the initial hyperemia or to ensuing complications.

The general symptomatology may be ascribed to the effects of direct absorption and to secondary changes. The greater number of my cases have been of the afebrile type. When fever is present, it usually is regular, rising to 100° to 102° F. in mild cases and 103° to 104° or 105° F. in severe cases. In the absence of complications, the fever should not be regarded as a death sign as it usually responds to active treatment and subsides within three days after such treatment has been instituted. In some cases, pain and soreness are general throughout the muscular system, especially in the joints and lumbar region. This generalized soreness is not encountered in all cases. A tugging, oppressing pain over the chest and a feeling of depression and pain over the stomach, often described as a "ton of lead" feeling, are constant and important features in the diagnosis of this condition. Headache, if present, is of the frontal type and very severe in some cases. Nose bleed was met with in some cases coming to my attention. In a great majority of cases, the onset is characterized by dizziness, nausea and vomiting, especially after a hearty meal; most of these patients are in robust health and show no apparent signs of disease.

Thus, if the disease we are now combating really is influenza, I must say that the symptoms are atypic and the bacterial cause of the disease is obscure.

The dizziness, the frequent nausea and vomiting, the pain over the stomach, the hyperemic condition of the tubes, the absence of initial fever, the abruptness of the attack, the failure to find Pfeiffer's bacillus, the response to early treatment, are all in favor of a chemical toxemia and not a bacterial infection.

The Diagnosis and Prognosis

In regard to the prognosis, if the case is brought to your attention early there is no cause for worry providing you immediately relieve the mind of the patient of the dread of influenza and resort to immediate treatment of the symptoms in a plain, intelligent manner. I have had no loss from influenza or pneumonia as the records will show, but, I have insisted that my orders should be strictly followed.

Influenza at present is the fad, but, do not let the fad get you. No matter whether it is ingrown toenail, trench foot, delirium tremens, the mechanical sentence is passed: "You have got the flu." I recently saw a man who had been suffering for years from a kidney stone; on his arrival home, his family physician, who was summoned, on hearing of the aching pains in the back, pronounced it "influenza." The family was not satisfied because they were accustomed to the old chronic pain, so, another physician was called and a confirmation of the original diagnosis was made. After stopping his socalled influenza pain with hyoscine-morphine, I recorded him on my books for an early operation.

I could mention many more instances of snap-judgment influenza diagnosis, and I wish to state that this flu fad had lodged so deeply in my own mind that it was with difficulty I released myself from the prevailing obsession.

I believe in giving the devil his due, hence, permit me to say that the increase in the number of reported cases was due to this fad. We got into the habit of calling everything the "flu" and we failed to recognize anything else within the realms of medicine. The number of cases reported was exaggerated, and, therefore, the early statistical records of the "flu" epidemic are not to be relied upon.

The Treatment of the Disease

In regard to the treatment, if the tongue is characteristically furred, order the in-

dividual to bed, tell him to rest, take it easy, avoid mental and physical exertion and, above all, relax his mind. If he is to develop the disease, you have prepared his system for the attack. If he is not on the list for an attack, you still have accomplished something. The present conditions of business, the political issues at hand, and the anxiety which war and peace has caused, have increased the nerve tension and blood pressure of every thinking, active American, hence, he needs rest on general principles.

I have had very little experience with vaccines in prevention or cure. As a practitioner, I wish to say, quick results are what we are after. I caution against the use of vaccines without resorting to other forms of therapy, although I am not unmindful of the scientific efforts that are being put forth in this direction. To expect to obtain immediate results in the use of vaccines is folly, as the active immunity which they produce takes about ten days to become established. What is to become of our patient during these ten days? Immunity produced by a vaccine that is made up of so many kinds of germs is not acceptable to me. If a specific germ draws a specific antibody from the body cells, then ten different specific germs must in turn draw ten specific types of antibodies. Can you picture a body cell to which are attached ten different germs, each one asking for an antibody? "Some cell"—if it grants the request. The idea always has reminded me of the period when cruelty to human beings was indulged in for the sport of kings. Just think of a human being, tied to ten horses each pulling in a different direction and claiming a certain portion of the body.

The Author's Method of Treatment

Now, I will describe to you the method of procedure which I have adopted in the treatment of cases coming under my observation. The first thing I insist upon is, absolute rest in bed for at least five days. I always add "Unless you want to join the Kaiser and the devil by having crepe on the front door." This stirs the imagination and excites a willing disposition to follow orders. No food of any kind, liquid, solid or otherwise for forty-eight hours or more. Especially is this rule enforced if fever is present, as food will only aggravate the fever and increase abdominal pains. As a matter of routine, I order a saline laxative or Pluto water every morning to open the bowel. If this fails, the lower bowel is immediately freed by administering a saline enema. It is advisable to keep the bowels open daily. This method of procedure will be found superior to drastic purgatives. I always impress on the patient's mind the great value of drinking an abundance of water. If lemonade, orange-juice or weak tea are agreeable, these may be given. A warm sponge bath, two to three times daily and followed by a brisk rub with a Turkish towel, soothes the nervous system, reduces the fever and makes the patient feel refreshed and hopeful. Alcohol may be used but, as this is scarce at present, plain water will be found of equal value. Keep the patient out of the way of draughts, for, I am of the opinion that a closed room is better than an open one. The room may be aired several times during the day. The windows should never be opened in the early morning or during the night. A small fire should be kept in the house to dry the air, but, never have it so hot as to cause discomfort to the patient. If headache is present and unbearable, I have found that phenacetin may be administered to give temporary relief, without danger of inducing delirium, providing small amounts are given and its use is discontinued within a few hours.

If fever is high and constant, acetylsalicylic acid may be given for the first or initial doses to cause a general sweating and to reduce the temperature; this, however, must not be given for too long a period.

As the inflammation develops in the respiratory tract, I have used the following with especially good results; calcium iodized gr. 1; sodium salicylate, grs. 3 in capsule or mixture. This is given continuously every three hours until the fever abates. The dosage of this mixture is regulated to suit the age of children, in whom I have had excellent results. I believe that fasting is better than feeding the patient. I have been able to allay the most severe and treacherous rise of fever by adhering to hydrotherapy and starvation.

Should cough become severe and a sense of tightness, soreness and tugging develop over the chest, a counterirritant is indicated and should be immediately applied

to abort the bronchial inflammation and to prevent any chance of secondary pneumonic congestion. For this purpose, I prefer the old-fashioned mustard poultice applied lengthwise from the larnyx downward to the stomach. It should be left on until it becomes unbearable. This should again be resorted to at any time during the illness, if indications arise for its use. It is a good routine practice in all cases having fever, to recommend the use of a cotton jacket and camphorated oil applied to the chest. Counterirritants, withdrawal of blood, and saline transfusion may be resorted to where necessary. When the temperature becomes normal, the sodium salicylate is discontinued. However, the use of iodized calcium is kept up and strychnine is added for its tonic effect. This seems to do more good for the general weakness and debility that follow than do alcoholic beverages. After a few days, the patient having regained part of his former strength and appetite, I find a meal of rare steak seems to be preferred to any other sort of meat.

I am of the opinion that all cough sedative are contraindicated. Do not stop the cough, but, give expectorants to loosen the secretions and allow nature to eliminate them. To stop the cough is, to stop expectoration and increase the chances of a complicating pneumonia. Iodized calcium loosens the secretions. Give it freely.

The course of the disease is variable, but, I have had no cases showing active symptoms after the fourth day of treatment. Other physicians who have resorted to this method of handling their cases, have reported to me that the duration of active symptoms had been the same as in my experience.

In conclusion, permit me to say that quick and sensible recognition of the condition, the immediate ordering of the patient to bed, and an early regular and progressive line of treatment will lead most cases to a favorable termination.

Abstract of Discussion

Dr. Lydston: My interest in this subject is not special; rather, general. But, I have had the opportunity of seeing a few cases and witnessing a few necropsies on victims of this socalled influenza epidemic.

Regarding the nomenclature, I presume, that the appellation "Spanish Influenza" is due to the fact that the first epidemic that was recognized as influenza actually originated in Spain, in 1624. But, long prior to that time, as far back as the latter part of the 14th century, there occurred epidemics in Europe of what was called the "sweating sickness" which some of our modern writers have supposed to be the forerunner of what we now know as influenza, though it was not typical, as we knew it in the previous epidemics of influenza, nor as compared with this recent epidemic of socalled influenza. This naturally would be expected from the fact that, whatever the origin of those epidemics may have been, the characteristics would not necessarily remain the same. This is apparent to anyone who believes that the evolutionary theory applies to microorganisms as well as to other phenomena of organic life.

I do not believe that the fact that the phenomena of the recent epidemic did not exactly correspond to those of previous epidemics necessarily proves that they are not the same or, at least, were not the same in origin. History shows very positively that great wars have been associated with, and followed by, epidemics of various kinds and it shows, too, that there have been variations in type of epidemics of absolutely similar origin.

The idea that some atmospheric influence, something dissociated from the germ explanation of infection or of epidemics in general, underlies such epidemics as this recent one of alleged influenza was, as some of you may recall, promulgated by Wagner many, many years ago in his work on pathology under the caption of "The Epidemic Constitution of Disease."

I think that sometimes we, possibly, are greatly at fault, speaking in an unconventional way, in picking out a three-cornered disease, seeking a three-cornered germ to fit it, then hunting for a three-cornered club to kill it with and forgetting many of the excellent ideas that our medical forefathers promulgated and some of which were very, very sound and practical.

I remember being very strongly impressed by Wagner's observations on the epidemic influence in disease and I always have felt that much that he said was sound and, perhaps, might well be remembered by all of us who consider ourselves modern and up to date.

Now, the view that some chemical constitution of the atmosphere underlies the recent epidemic would be very hard to disprove—quite as hard as it would be for Dr. Croft to prove it; almost as hard to prove as the popular notion entertained at the Chicago City Hall that tobacco-spit is the cause of influenza.

Even admitting, however, that some peculiar chemical constitution of the atmosphere is the basis of such epidemics as the one we have just gone through, it does not disprove, necessarily, the importance of germs of various kinds in the pathologic complex known as influenza. Dr. Croft, himself, inadvertantly admitted this in the course of his paper. He asserts that the funda-

mental cause is some peculiarity of constitution of the atmosphere, then, proceeds in the next breath to show that in the course of the disease mixed infections of various kinds develop with consequent pathologic phenomena.

Dr. Croft thus has admitted the importance of germs. This, of course, does not necessarily prove that we are in a position to cure the disease or prevent it by any kind of vaccines—nor does it disprove it.

I occupy something of middle ground on the vaccine-therapy proposition. I believe that, in vaccines, we have a very valuable therapeutic resource, but, I think that, as yet, we are just on the threshold of our knowledge of vaccines in the treatment and prevention of disease. I fancy that, as time goes on and we understand more thoroughly the selection of the proper vaccines and the dosage of administration and the conditions under which they should be administered, some of us, possibly, may acquire more confidence in vaccines than we have now.

On the other hand, I have suspected that, sometimes, vaccines are chiefly valuable in keeping the surgeon or physician busy and the patient amused while nature is taking care of the disease. I suggested to one of my friends today that the best treatment of acute gonorrhea was vaccine. He said, "What kind?" I said, "Made out of sterile distilled water."

Doctor Croft brought out some other rather interesting points in connection with the morbid anatomy of the disease. He laid stress upon edema of the bronchi and edema of the lungs as one of the important factors. In the few cases that I have seen *post mortem,* those happened to be the predominating factors. Whether the cases were typic or not, I am not prepared to say, but, they certainly presented the same characteristics that a large proportion of them do on necropsy.

In viewing these postmortems, I was unable to see much difference between the so-called patchy pneumonia that develops in connection with the pulmonary disturbance of the so-called influenza and what we used to call lobular pneumonia. I think most of the consolidated areas are what we used to call atelectasis and the true lobar pneumonia that develops, it seems to me, is a sequence rather than a characteristic of the disease itself.

Reverting to the edema, I think it was Doctor Richardson of Boston who, in connection with a necropsy on a typic case (or what he termed a typic case) of this so-called influenza said, "These patients drown; they simply drown. The hemorrhagic edema of the bronchi and the pulmonary structure is the cause of their death."

We can easily understand that the other phenomena that occur, the cyanosis of the skin from imperfect oxygenation, hemorrhages, and so on, might rationally be explained by the obstruction of the lungs produced simply by the hemorrhagic edema. To me, however, the hemorrhages seem to be due to two things; viz: first, the purely mechanical conditions present and, second, to toxemia. I have had occasion to see in consultation several cases of hemorrhage from the kidney and bladder occurring as a complication in the course of influenza, so that I speak advisedly on this particular point.

The one thing that has impressed me, gentlemen, in this epidemic is this: If there ever was a panic-stricken lot of people in the world it has been the medical profession. It seemed to me that we took it for granted that, inasmuch as we had no specific vaccine, we were at the end of our Latin and the patient either died or got well in spite of us. Thus, we became fatalists. I think most of the general practitioners who were thus panic-stricken forgot that they were pretty good doctors before influenza ever was heard of.

Now, if we are going to be panic-stricken in epidemics such as the recent one under consideration, and forget the sound, rational principles of therapy that we apply in other conditions, we certainly are not going to improve the mortality record and I believe that you all know it to be a fact that the profession in general has been pretty panicky in the course of this epidemic.

Some of the edicts and some of the advice and wisdom that has emanated from the Health Department is very suggestive of panic. I presume it might be argued now that, because smoking was prohibited upon the street cars and elevated and railroad trains, it is easy to explain why the epidemic has subsided.

Of course, the facts that, first, an epidemic does not necessarily hit the entire community but may spread in waves and perhaps circles that extend a certain distance and then stop and diverge in some other direction; second, that an epidemic picks out those that are susceptible and misses those that are primarily immune; and, third, that having picked out all the susceptible ones and killed off all those that could not resist, the epidemic after a while stops, would be no argument with some people.

It is suggestive along the lines that the doctor has outlined here this evening, that they are having trouble on the Pacific Coast—in Los Angeles for example, California is supposed to have a wonderful climate (in fact we native Californians claim there is nothing in the world like our California climate and we don't want you to say that it does not cure everything, or, better, prevent everything). All the same, they are having more trouble in Los Angeles than we have had in Chicago.

One point that might have been brought out—with reference to the contagiousness of this disease is, that it moves rather faster than people move. It moves rather faster than could be explained by contagion in the ordinary sense of the term. It takes wonderful jumps. For instance, I heard

from some friends of mine in the East, the other day, who were living on a little farm very remote from any populous center, people who were not in the habit of going to the city at all but just lived in an old-fashioned, Yankee, New England way on that farm. The husband and wife were attacked with influenza and the wife died. There was no possibility, so far as could be learned, of any contact with any cases that would have afforded contagion.

Now, we have innumerable similar examples and it seems as though the theory of contagion does not explain it at all. Whether we can prove that some influence in the atmosphere explains it, is an entirely different proposition. That some occult atmospheric condition exists that produces a lack of resistance and a susceptibility to such conditions as the recent epidemic of influenza, or whatever it may have been, is quite likely but it would be a difficult thing to prove.

It is not surprising that epidemics should arise in army camps. It is stated that our soldiers are taken such excellent care of, housed, fed and clothed so well that the conditions in the camps couldn't possibly explain it, but, all the same, the "crowd-influence" is a very important thing in all epidemics and it is something that we should not lose sight of.

Laying aside the crowd-influence in the case of army camps, there is no use saying that they haven't had considerable trouble. A surgeon friend at Camp Devens, Massachusetts, said to me, "We are just simply overrun with it down there. There were 7,000 cases when I left, with pneumonias galore."

Now, that was a pretty serious proposition. That meant 7,000 cases just at that time; which means that there must have been an inordinate number of cases during the prevalence of the epidemic. The Government issued reports to the effect that: "We have this under control, we've got it licked out." The Health Department said we had it licked out in Chicago. Yes, a fire is "licked out" too, when it has burned up all the fuel; and it is just about as sensible to say, we licked the fire out, after everything is burned up, as to say, we licked out this epidemic. It burned itself out. So it was with the "flu" in the army camps!

To revert to the excellent treatment of our soldiers: A human being is very much like a tree. You remember that landscape gardeners, at great expense and bother, planted a lot of trees down in Grant Park—trees pretty well grown, very expensive trees that cost the city a good deal of money. It was said that the gases from the Illinois Central locomotives killed them.

Those of you who saw the filling in of Grant Park know something about the soil. But, there is something else. If those trees had been seedlings, costing about two cents apiece, if they had had a little black earth planted about them and had been kept properly irrigated, most of them would have lived and we'd have had some foliage down in Grant Park now instead of a desert waste.

Any gardener will tell you that a little bit of a tree changed from the environment in which the seedling grew will do much better in a strange environment than will one half-grown. Why isn't the same true of the human being? The Government may be perfectly satisfied with the way it treats its soldiers, but, they are not living under the same environmental conditions as at home.

Think of how many of them have lived in heated houses, furnace-, steam-, hot-water heated houses. Look at these Jackies on the streets with their lowcut blouses, without overcoats, when a light overcoat is very comfortable to the rest of us, and I think you will see the point.

They haven't the same food; they are crowded; there is the element of contact, intimate contact with others. You remember, at the begining of the war they were putting about eight men in a tent when they should have had two or three until General Gorgas finally decided that they needed more space, that a soldier needed quite as many cubic feet of fresh air as did the average citizen.

Now, under these conditions it is reasonable to suppose that germ life would be likely to thrive. Germs that were previously innocuous would not only thrive and wax fat and multiply but would acquire new properties.

Therein lies the chief weakness of the Doctor's chemical view of the etiology of Influenza, because, no matter what the primary cause may be, once the soil is changed, the germ changes, multiplies very rapidly, and adapts itself as fast as may be. If it does not adapt itself, it dies. By and by you have an intense cultivation of organisms that possibly may carry contagion, may even have specific pathogenic properties. These things really are worth considering.

I firmly believe that all of our epidemics as far as we can go back into history, are explainable on a purely evolutionary basis. I never believed in the specific origin of any germ whatsoever. I don't believe in it any more than I believe in a specific creation of any organism whatsoever.

I don't believe that germs were created at all, much less at any one particular time. If we accept the theory of specific creation of germs, we must accept the theory of specific creation of all animal and vegetable organisms and, beginning with Adam and Eve, we will recall that the only habitat for certain diseases at that time would have been the systems of Adam and Eve.

Now, as gonorrhea is a purely human disease and as chancroid is a purely human disease, and syphilis is a wonderfully humanized disease, and leprosy, scarlet fever and measles and a few other things, are

human diseases, Adam and Eve must have had a lovely time.

As syphilis and gonorrhea are not particularly favorable to fertility, we can easily see that according to the theory of specific creation of disease, not only are we not here but our forefathers never were born because Adam and Eve must have been sterile.

It is not for me to comment particularly on the therapy that Doctor Croft has outlined. There is a lot of common sense in it. I would, however, take exception to his view that the proper way to get the fear of the "flu" out of a man was, to throw another scare into him.

The thing that impressed me most regarding his therapeutics was, a lot of common sense that every general practitioner should have. The general practitioner does not always put into practice what he really knows. He does not always take the best advantage of his own practical knowledge and experience, especially if he is in a panic. Because he does not know the specific cause of a disease, because he does not know any specific organism as the cause of the disease, or any specific remedy to kill that organism, once he finds it, is no particular reason why he should lie down and forget to treat the patient for what ails him.

I wish to reiterate what I said about the morbid anatomy of these cases, the socalled typic ones, and especially with reference to the hemorrhagic edema and the patchy pneumonia. As I stated, I can't see any difference between that and what we call lobular pneumonia, with the exception that there is a greater tendency to hemorrhagic areas here and there than in the ordinary type of socalled broncho- or lobular pneumonia and I believe that the mechanical condition is essentially the most severe and important condition with which we have to deal.

The fact that these cases either die or get well very quickly, that there is not a particularly prolonged period of convalescence, even though they are left weak afterwards, suggests that there is some condition other than a secondary bacterial toxemia underlying the pathology.

The President, Dr. Lilly: In view of the wonderful results that we have heard, I think somebody else ought to tell us a little about some bad results in this epidemic. Doctor Croft had 500 cases and nobody died. Another physician reports 1,100 with 2 deaths. I had to sign two death certificates this morning. I'd like to hear somebody else. My mortality has been enormous and from the death list in the American Medical Association, among the doctors, the mortality in general seems to be enormous. I thought I was getting just an ordinary number of deaths, but, from these reports I have had a terrible mortality.

There were two doctors who died at Michael Reese Hospital, young, robust men. We lost one at Mercy and, as far as I could see, I went through the thing myself—I had three weeks of it and I was scared to death. Dr. Lydston talked about the medical profession being scared—well, I was scared to death. I was afraid to turn over in my bed and the mortality among my patients certainly has been very high.

A great many of the "flu" cases developed into pneumonia. Of course, a great many were just ordinary influenza and, if they didn't develop pneumonia there was a very slight mortality, but, where it did develop (I speak of the mortality in general at Mercy Hospital) the mortality was enormous.

The treatment that we used has been "fresh air," in contradistinction to Dr. Croft. We have had the windows of the influenza ward wide open and the patients have a circulation of air right across them. We have had blankets pinned around their chest and caps on their heads, but, they have been virtually outside.

In the early stages, before there was any pneumonia, the patients were given small doses of aspirin, grs. 2 or 3, phenacetin grs. 2 or 3 and a little quinine, gr. 1 or 2, every four hours and, of course, the general hygiene was looked after, the bowels were moved.

The patients were fed, however—they were not starved. In fact, we rather pushed the nourishment in the shape of milk and cream and if the cough was annoying, they were given liquor of terpin hydrate and codeine, about gr. ⅛ or ¼ of codeine every four hours, or then muriate of ammonia and codeine every four hours. When, with pneumonia, signs of cardiac failure occurred, they were stimulated in the ordinary manner by means of digitalis in the presence of fever. As far as I know from the use of the drug, I have never seen any special effect on the heart.

We have used caffeine, sodium benzoate and strychnine extensively, but, no alcohol, and our mortality has been very high. Just as Dr. Lydston states, these patients drown.

I went up to Ward D the day before yesterday and, the day before that, I had a patient with pneumonia in very good condition. Yet, she was drowning and was dead eight hours later.

Dr. Gregory: I think we all must admit that the medical profession has been in a panic during this epidemic. I haven't varied my treatment of bronchopneumonia in this epidemic from that which I employed in the last five years.

The fellow that speaks last can always tell the best story. I don't recall of signing a death certificate for pneumonia in five years. I have a general practice and, during this epidemic, I have been busy. When I am called in to see one of these cases I find my patient overwhelmed with toxins. At the beginning, I made many smears of the throat. I found that my patient was sick in proportion as I found the pneu-

mococcus, the staphylococcus or the streptococcus.

The first thing that I ordered was, castor oil. I have ordered from two to four doses of castor oil in the first 48 hours. I order a cupful of hot water every two hours, beginning one and a half hours after the oil. I have ordered iodized calcium gr. 1 every two hours, taken usually at the time that I give the hot water.

Absolutely no food for from two to five days. One patient, that I recall now, went seven days without any food whatever—except hot water and fresh air.

It seems to me that the castor oil removes more toxins from the system than any other medicine that I have been able to find. It begins at the throat and doesn't end until it goes through the 20 feet of intestinal tract. I use the hot water in preference to cold, because I had my son, who is a medical student, figure out how much heat it required, that is to say, how much energy it required to raise a cupful of water about 50 degrees in temperature, which is the average difference between the temperature of the body and of the average drinking water. I was astounded at the result of this calculation.

I felt as though, if I could save that energy and heat for my patient and let nature use it, instead, as she wanted to in fighting the infection, I was helping her along in that way.

I did not, during this epidemic, use more than one dose of opium for any symptom that I had to treat. I was called in to see one patient with a temperature of over 103°. She was sitting in her dining room. She couldn't move. She was exceedingly hysterical. I didn't have the three-quarters of an hour required in order to treat that hysteria. So, I gave her a hypodermic of morphine and then I started in upon my regular treatment.

I didn't use one tablet of aspirin, nor did I use any digitalis. After my patient was convalescing and the fever had subsided, I used a little strychnine. Sometimes it was for the psychological effect, just a small dose of strychnine.

I believe that from two to four doses of castor oil in the first 48 hours, a cupful of hot water every two hours, iodized calcium, gr. 1 every two hours, no food from two to four days, and fresh air, meet all of the indications that we have in this present epidemic, better than any other therapeutic combination.

Dr. Leonard: I just wish to speak a few words about Dr. Croft's treatment which, I think, is very sensible. I believe that, in all febrile toxic conditions, elimination is the keynote and, whether you eliminate with castor oil or whether you do it with a good expectorant or anything else, that is the idea, just as much as if you had a thorn in your foot, to pull the thorn out, or if you had a boil on the back of the neck, to cut it open; not, to bandage it up so that the pus couldn't escape. Persistent elimination is the one important factor in all those conditions.

Dr. Pechous: Our line of treatment varies very little from the ordinary treatment. We have heard here tonight that we might have used other drugs that were suggested; but, of course, in an institution like ours, we are limited to the drugs that are furnished us. Of course, we get the ordinary ones, but some drugs, for which we probably have a preference, we can not use in an institution of that sort.

As for Dr. Croft's theory about the air transmission, the change in atmospheric pressure, gaseous elements, etc., there seems to be some plausibility to it. Of course I don't think we can exclude the theory of germ infection here although we cannot prove any definite germ, and it seems that there must have been something unusual in the atmosphere to produce such great variety in the attacks.

That is to say, as Dr. Lydston has mentioned, such large gaps in between areas where you'd have influenza in one spot and then go for miles before you get another case. It seems that this must be something unusual, something that we cannot grasp; to transmit these germs or whether it was; an atmospheric condition weakening the person; and, the ordinary germs that we have in our mouths and nasal tracts getting a better chance to grow. Of course, all this is only a guess and has yet to be proved.

So, there probably is something in the theory of an atmospheric condition and, may be, some conditions we haven't been able to meet yet, certain conditions of cultures that we have not been able to reach yet, and, for that reason, we have not been able to bring out the germ as well as we would like to.

Dr. Kruk: As to contagion, my observation is, that all the nurses that had contact with these patients got the "flu," so, there must be some contagion. All the help that we had assisting the nurses with these patients got the "flu." Where it came from, I don't know. I don't know if it is in the air or in the contact. I think it was contact.

I have got away from it because I was very careful about it. Sometimes I wore a mask—but, sometimes I didn't. So, I don't know. As to Dr. Croft's theory, I couldn't disprove it but, my opinion is, that contact with the patients, especially if they are in the early stages, the second and third day when the majority or all of them cough, conveys the infection.

Dr. Schneider: As to the possible cause of this trouble and its dissemination, I haven't any experience in treating these cases as I am just a specialist and am a health officer in Winnetka and Glencoe. As health officer in Winnetka, I have noticed the disease developing since about the second week of September. That is very much

earlier than we have had any experience in Chicago.

We began to get our cases within three or four days from the time they developed their first case at the Great Lakes and the first twenty cases that we had were directly traceable to the infection from that source. We had, in Winnetka, an entertainment for the sailors; dances and social functions where they were invited, and the first few cases that we got were due directly to the fact that some of those boys became ill during their visit in Winnetka, and, in other cases, through the fact that those boys had been there although they went away before they got it. Then, also, men working at Great Lakes came back and forth between those communities. The second week in September, we figured about twenty cases. The following week there were about a hundred cases and I got in communication with Springfield; yet, it was not until after that that they began to realize that we really had a problem there to solve.

After that, we kept a very accurate count of the cases and, the first week after we kept count, about 25 to 50 cases a day developed. Now, my observation is that, in view of the fact that those atmospheric conditions must have been the same at the Great Lakes and those North Shore towns and Chicago, (at Great Lakes the trouble developed in September)—we kept it confined up there pretty well and it didn't begin to develop in Chicago until pretty nearly the first of October.

Our patients were all isolated and rules were followed as carefully as could be; the infection was eliminated to the extent that now we are only getting one or two cases a day and some days have escaped without any.

Now, the other point; nothing has been mentioned in connection with the blood findings. It has interested me to find, in talking with men that have treated patients at Great Lakes and also with the doctors in our community who are making blood examinations finding a decided leukopenia, that the white blood corpuscles are in some cases diminished to less than a thousand. They have found in those examinations of blood, at the Great Lakes, that they could predict two or three days in advance those cases that would not recover because they were the ones where the leukopenia developed to such an extent that one could find no remedy for it.

Dr. Rogers: I am a veterinarian. We have a disease in horses and have it right along, known as influenza. During the last month, I have come to a certain conclusion regarding our definition of inflammation which, from time immemorial, I think, has been wrong in one little particular. It is always given this way: "Inflammation is the reaction of the tissues to an irritant."

But, I want to ask this question: Has anyone ever seen an inflammation that is due to an excess of blood in the part or organ? May not the excess of blood in the part itself, by its intracapillary pressure, produce the inflammation?

What I am driving at here is, what conditions there are that can produce that in an organ or in a part, and traumatism in a particular region. If you want to prevent inflammation, the thing to do is, to apply cold at once. To prevent what? The injury is there. There will be reaction but, what you want to prevent is the excess of blood coming to the part.

Now, can a thermal irritant, applied to the surface of the body improperly protected, physiologically, result in contraction of the cutaneous and surface fascia motor fibers, drive that blood inward into the elastic pulmonary system of vessels and be kept there long enough that intracapillary pressure in the elastic pulmonary structures produces the inflammation absolutely independently of any bacteria?

If I should transsect the femoral artery onto the radial artery, the immediate picture that would follow in the hand or tributary area would be an active hyperemia. If kept up long enough we could have a picture of inflammation of the hand of the whole area and on to edema.

This summer, I was going to take, in New York City, one of Mr. Rockefeller's men down to a packing plant to show a certain thing in connection with the lungs, with reference to tuberculosis which has been my particular hobby for some 18 years, and it was the result of a trick played on me in Iowa when I was a Federal Inspector and that I never expected to be of any use until 15 years later. The butcher called to me one day and said, "Doctor, what's the matter with this lung?"

I looked at it. It was a beef lung. It was enlarged, pale and heavy. I had been an inspector a number of years, in fact, had taught inspection, and in none of the literature had I ever seen a lung like that.

Every large, heavy lung I had ever seen was red, hepatized. I looked at it and walked away, I didn't want to display my ignorance. This was a town in Iowa and I thought they might really have had a common disease there that I hadn't heard about.

A young fellow whom I had befriended told me they stuck a hose into the trachea and filled it up, so, I ignored it but here is how it came in this summer: I went down to the packing plant and took two normal hog lungs. I put the hose into the trachea of one and completely filled the trachea and bronchi and bronchioles and alveoli and then I took and massaged that lung with the intent and purpose of working out the lymphatic system in this way: To bring pressure to bear on the alveoli and produce osmosis to the lymphatic tissue, to the outside, and then one to the lymphatic nodes. It worked!

On the other lung, I put the hose into the pulmonary artery on the right side of

the heart filling up the bloodvessels of the lung; and, by the way, I am afraid we are forgetting that the lung is as much a vascular organ as it is an air organ. This particular lung also I massaged with the idea, in this case, of having pressure on the capillaries and osmosis through the capillary walls into that same lymphatic tissue and fill up those lymph vessels and trace it down to the lymph nodes. And it worked!

My purpose was, to show this doctor of the International Health Board, as to the tubercle found in the tissue outside of the alveoli and also outside of the capillaries, that no man lives who can say positively at the necropsy, twenty years afterwards, that it came through the blood route or air route, but, this is what I observed:

I attended a meeting of the medical men here in Chicago and postmortem pictures were given of pneumonia cases out at the Great Lakes, which indicated this edema and pressure and spurting of the serum. Well, I recalled that I had produced that very condition in these lungs and I have no hesitancy in maintaining that I or any of you can take two lungs, take defibrinated blood so as to prevent coagulation, and produce a typical picture of pneumonia, but without the reaction, of course, remaining in the tissue.

There was another thing about the treatment at the Great Lakes. They gave pituitrin. The great-systemic system of blood vessels (and one of the first things we learn in angiology is, the separation of the systemic circulation from the pulmonary circulation) and the subject lacks one essential thing. A cross section of an arteriole in the systemic circulation shows the middle coat containing vasoconstrictor fibers; the pulmonary system of vessels does not contain any vasoconstrictors in the middle coat of the arteries but, what muscular tissue there is in the lungs, is peribronchial and perialveolar.

Now, pituitrin, as you know, acts upon the vasoconstrictors, and they gave it (so they stated) with the intent and purpose of contracting the pulmonary system of vessels and relieving that pressure there, decreasing the quantity of blood. Unfortunately, the very opposite occurred. It was a constriction of the systemic system of blood vessels and drove more blood into those lungs.

You can take a dog and give it pituitrin and produce pneumonia. To me, these two great systems are like an hour-glass. Imagining one part of the glass the pulmonary system, like a rubber balloon, very elastic; the other part like the rubber of a bulb syringe and your hand to act as a vasoconstrictor. The more you have in one, the less you have in the other. Our younger men of today, I believe, do not fully realize, while horse doctors always will remember the counterirritant and blisters that they employed to increase the quantity of blood somewhere else in the systemic circulation, and you've got to have at least a decreased quantity in the pulmonary circulation.

My work in tuberculosis has led me to this belief, that there is absolutely no disease air-borne or droplet-borne, transmitted from one diseased person to another, and these lungs that we have accused for years of taking in bacteria have actually been doing just the opposite.

The intestinal tract is constantly full of a bacterial flora of all kinds and a constant but variable number penetrate the mucosa, enter the lymph stream and reach the lungs. If they find a normal alveolus coated with mucus, they go on out to the exterior but, if it is preceded by the application of cold externally and improperly taken baths, drafts, contraction of the systemic system, it increases the intracapillary pressure of the pulmonary system, edema (no coagulation yet) and then a forcing it into the alveoli and air striking it just exactly like the cutting of the skin. Now, when air strikes the cut, immediate coagulation occurs, we get a coagulated serum in the alveoli which, to me, are just exactly like so many miniature Ehrlenmeyer flasks.

And now, when bacteria, attempting to pass out through the lung, are thrown out into this, that is a secondary proposition. In some cases, you will get the influenza bacillus; in some cases type-I, type-II, type-III, pneumococcus; and you all know what type-IV is—everything that you can't put into the first three.

Dr. Graves: I came a little late. I don't know what has been said about the prophylactic use of the vaccine. I merely wish to say that I differ in quite a number of cases. Some of those cases have developed influenza, all of them had it mildly. Of course, in comparatively few cases it means very little, but I merely wish to state that much of my experience. I used the stock vaccine consisting of pneumococci and influenza germs. I also saw one patient where we had given two immunizing doses of the new vaccine furnished by the Health Department and who developed the "flu" despite this preventive treatment.

I didn't hear anybody say anything about the gastric and intestinal types of influenza. I saw a good many of those; and very distressing they were. Many of them did not receive any medicine or nourishment or anything else. Of course, most of them got well the same as the others in the degree that in most cases good nursing and elimination, perhaps, was all that was necessary.

I haven't any pet line of treatment for influenza but I really wish to mention that some of the more severe cases were helped by digitalis and I am absolutely positive that morphine did wonderfully well in some cases, giving rest in patients that were restless and weak and throwing themselves around. By giving them a hypodermic,

they got rest which did more good than anything else.

Speaking of producing immunity, you have all heard a good deal about whisky prevention. People in our part of the city have grabbed at that with glad hearts. I don't know if it kept anybody from getting the "flu"; I know that some of them got it but, I am yet to know of one real good old soak that has died of the "flu." I haven't seen any. All the men I have seen die were good, temperate, healthy, nice-living people. I have had a few cases of old people in the 60's and 70's and they have all come through fine, contrary to my experience in other epidemics of influenza, and children have all come through fine. All the children, practically, had nose bleed. I thought that they were better after their noses did bleed and, I believe, if I had a really desperate case again in an adult, I'd bleed the patient.

I had one case that started in with a hiccough the very first day. That alarmed me because I never saw a bad case of hiccough, complicated with pneumonia, that didn't end fatally. I wanted to take the man to a hospital, but, he wouldn't consent. I insisted on a consultation, which I had, and, finally, we did take the man to the hospital but, everything we did had no effect on him, he lost continuously for five days and gradually developed bronchopneumonia and died.

I had several cases that developed a regular lobar pneumonia after anywhere from a week to ten days. Most of them were very ill, one patient died. I had one case where pneumonia developed very early, in a woman that I think was tuberculous. She died right away.

In our neighborhood and around the city, as far as I have heard, practically all the people that have died have been under thirty years old.

Dr. Harry L. O'Connor:—I was more than glad when the opportunity presented itself, through Dr. Croft's request, to make a bacteriological survey of his cases, having previously entertained the desire to study the etiology. In the way of a summary, I wish to state that I selected 300 sputum specimens, in such a manner that I had practically equal numbers from cases with and without fever, but, with the general signs of weakness, pains in back and stomach and tugging in the chest. The sputums were all portions of 24-hours' expectorations and were mucopurulent and, occasionally, tinged with blood. Two direct smears were made of each sputum, one stained by the dilute-fuchsin method and the others by Gram's method using Pyronin-methyl-green. Culturally, three implantations were made, two on pigeon's hemoglobinized agar and one on human hemoglobinized bouillon. In each instance, a number of specimen-lumps in the sputum were placed in sterile water and shaken in order to break them up prior to the inoculation process; 0.1 mil of this sputum-water was added to each bouillon tube and to one pigeon's hemoglobinized agar plate. A slanted agar tube containing pigeon's hemoglobin was inoculated with the pure sputum. In one of these inoculations and smears, no bacterium of the morphological characters of the Pfeiffers bacillus were found. A control inoculation of the above mediums with a known culture of the Pfeiffer bacillus gave excellent results. Guinea-pig inoculations from over 25 cases were negative.

Dr. Croft in closing: I want to call your attention to one other little thing. In convalescence, I saw three cases of swelling —one case, a woman fifty-eight years old, got up in the morning complaining of stiffness in the hands; her hands were swollen, but the urinalysis was negative. That disappeared on the third day. Another, a little boy, five years old, after he was up; on the fifty day, his face, abdomen, hands and feet became swollen, urine negative, otherwise felt all right. After keeping him in bed two days, that disappeared. My own little boy was sick. He had recovered, went to school for four days, came home and his face became swollen last Friday, disappeared Saturday and he has gone back to school.

Severe cough—I want to say I have seen several cases where they had that laryngeal spasm with continual coughing; and everybody in the household scared to death. I did nothing but simply apply counter-irritation on the trachea and stomach, and, in five minutes they were relieved.

I have seen several other cases that would be interesting to cite, but, the time is too short. In regard to Dr. Gregory's statement about not feeding for six or seven days, that is my own experience. My own boy didn't receive food for six days.

As to elimination, he has been using caster oil and some of my patients have been using that; but, I usually adhered to the Pluto water or saline laxative. If the bowels didn't move each day, I had them use an enema. I had one case, a woman sixty-six years old of the afebrile type, with chronic myocarditis, that made a recovery. One other, a case of chronic asthma, where the woman had to sit up in bed, with a terrific cough, but who was up on the fourth day and made a good recovery.

If this disease was contagious, why didn't all the doctors and all the nurses get it? The few that had it became over-exhausted, exposed and were subject to draughts.

In regard to the peculiarly "furred tongue" which I have noted as apparently premonitory of so-called influenza: I have noted the same phenomenon in a large number of individuals in whom I have been unable to follow it up with reference to subsequent conditions.

A Study of Influenza and Epidemic Pneumonitis

By HYMAN L. GOLDSTEIN, M. D., Camden, N. J.

MUCH has been written recently in *The Lancet, The British Medical Journal, The Journal of the American Medical Association* and in numerous others concerning the terrible pandemic of epidemic pneumonitis and socalled Spanish influenza. Physicians, the large hospitals and the other institutions usually given to careful study of their various cases that are followed from beginning to end, were compelled to devote all their time and facilities to handling the large volume of work—of treating hundreds of patients in a great emergency; and, therefore, had to forego any very complete studies, autopsies, and so forth for the present. More will be learned later, no doubt. Some facts can, however, well be brought forward now, even though they be more or less a review of what may be well known.

The recent outbreak of what appears to be a new virulent or malignant form of influenza, so called, has in a large majority of the more severe cases been associated with a pneumonia, usually of the bronchopneumonic type, but also frequently with an atypical lobar pneumonia. So often has the pneumonia been a part of the disease, that I am led to believe that the pneumonitis was not a complication, but actually the disease or a very serious part of the disease.

Dr. Henry A. Christian did not fail to find evidences of pneumonia in a single case of a series of necropsies, and he states that, virtually in all fatal cases of epidemic influenza, there is a pneumonic process in the lungs before death. He believes that all patients that died, died of "bronchopneumonia and epidemic influenza." In 26 consecutive cases studied by him, not a single patient failed (ante mortem) to show physical signs of bronchopneumonia. Of course, there were, no doubt, many mild cases that really constituted only an influenza or an attack of epidemic grip (Holt).

This epidemic came upon us very suddenly, and was probably brought here by ships coming to Boston. The disease probably started in Spain, just as the pandemic of 1889-90 probably began in Russia. It is not yet known whether these two epidemics are due to the same identical disease—certainly the mortality rate of the 1918 pandemic far exceeds that of 1889-90, although the morbidity rate of the "Russian" epidemic was greater than that of 1918 had been.

The recent epidemic disease was extremely contagious—several members of a family being affected and in many instances all the members down with the disease. In numerous instances, attendants, nurses, doctors, were stricken shortly after a first and limited exposure to droplet infection.

The Etiology

The exact cause is not known. It may be a mixed infection with several organisms of more virulent strains—including the bacillus of influenza, the streptococcus, micrococcus catarrhalis, pneumococcus, and others.

In the great majority of cultures made by the Department of Health Laboratory from a large number of my cases, the streptococcus was the predominant or only organism isolated. In a few, there were present the micrococcus catarrhalis, and pneumococcus and in only four was the Pfeiffer bacillus found. Of course, this does not necessarily mean that the B. Pfeiffer was not present in some of the other cases, as it may have been very difficult to isolate the organism by the cultural methods used, or the cultures were taken from parts not infected with the influenza bacillus at the time. In some cases, cultures showed only some small gram-negative bacilli—with or without other organisms, such as the streptococci or micrococcus catarrhalis. Blood cultures were all negative.

Symptomatology

The disease manifested itself, in a typical case, with abrupt onset, as strikingly sudden. After an incubation period of one or two, or at the most, three days, the patient would be seized with severe body

pains, headache and chilliness and at times would even collapse and fall to the floor.

The three commonest and earliest symptoms in many of my cases were chilliness, diffuse headache and backache, and then nosebleed. Then the patient would complain of general malaise, and an uncomfortable feeling of tightness and soreness in throat, nose and chest, with a slight dry cough. On the second or third day some of the patients would be a good deal worse, others would be feeling better. In some cases, there was a great desire to sleep the whole day and in some of the cases this somnolence was the chief symptom throughout the attack.

There seem to have been two distinct types of cases—those whose chief complaints and fever kept up for about three or four days and those whose fever, and pains, somnolence, photophobia, and cough, etc., would keep up for six, seven or eight days. So much for a brief description of the bulk of my cases.

The general symptoms at the onset of the attack were as described. Other symptoms that occurred in some patients were as follows: very severe backache, almost similar to lumbago or one of the other acute infections, such as smallpox; sweating, insomnia, flushing of the face, epistaxis, anorexia, hoarseness, dysphagia, sore throat, fever of 102-106° F.; the pulse ordinarily appeared to be relatively slow (as compared to temperature)—similarly to the observations made in the pulse-temperature ratio of meningitis, typhoid fever, malaria and yellow fever.

Cough was frequently followed by bloody expectoration, at times almost pure blood, at others a bloody fluid would be brought up, much thinner than that seen in cases of typical lobar pneumonia. Some patients vomited, in several instances the vomitus was bloody or coffee ground in appearance. Some patients had severe cramps in abdomen with tympanites.

Physical Signs

The liver was enlarged in many of the cases. The cardiac dullness was increased in a fairly large proportion of the cases. The heart sounds were muffled and without tone. Blood pressure was low, both systolic and diastolic, especially the diastolic (auscultatory).

In some cases, the lungs gave evidence of trouble very early in the disease. Numerous fine râles could sometimes be heard on the second day—with this one might get, on percussion, evidences of impairment and, at times, distinct consolidation, especially at or near the base of one or both lungs, most often over the left lung at first. At this stage there would also be tubular or bronchial breathing. However, the majority of the cases of epidemic pneumonitis failed to present the classical signs of typical lobar pneumonia. As a rule, the cases were chiefly bronchopneumonias and, in some instances, one could easily detect, on careful examination, an area of typical lobar pneumonia near the angle of the scapula or the base of the left lung, and distinct areas of bronchopneumonia in the other lung. Both lungs were distinctly involved in a number of my cases. In some of these cases, the respiration rate was not especially high. Pleural effusion was apparently rare, although a number of the cases had a definite pleuritis with the attack of influenza.

Many of the women who were down with the disease had their menstrual periods whether they were due or not. Many cases of miscarriages and abortion have been reported by physicians—and in some hospitals nearly all the pregnant women who had the disease miscarried or aborted. A large, indeed, a very large percentage of the pregnant women who were taken down, died early in the attack. Some hospitals report a 100-percent mortality in the pregnant women, others a 40 or 50-percent mortality. The influenzal pneumonitis was particularly fatal among the young adults between 20 and 30 years of age.

The negroes seem to have escaped the disease—at least in the Northern states. The very old and the very young also showed immunity against the infection. Only a comparatively small number of persons over 45 years of age were attacked and comparatively few children under 6 or 8 years were affected. In the epidemic of 1889-90 old people were also attacked.

Peculiarities and Observations

Convalescence is slow; the majority of patients do not recover their strength for 8 or 10 days or more after getting up.

The most characteristic physical signs appear about the end of second day or early on third day—namely, (1) A toxic appearance. (2) Heavily coated tongue and peculiar odor ("sweaty") about pa-

tient. (3) Injected conjunctivæ and evidence of acute inflammation of whole mucous membrane of mouth, tongue, gums; the nasopharynx is congested, and the gums bleed easily. The breath is foul and heavy. (4) The temperature is highest at this time. The highest temperature recorded in my cases was 106 1-5° F., in a small boy. This temperature dropped promptly after the use of Combined Influenza Vaccine. (5) Pulse, relatively slow. (6) Death may occur on the fourth or fifth day in the massive bronchopneumonic form. (7) Some bronchitis. (8) Urine is scantier than normal; high colored, and contains albumin in 80-90 percent of cases. Some granular and hyaline casts were found in 40 to 50 percent of cases. Some slight tenderness in the loins may be elicited. The casts were present for very short time. Albumin could be found in traces for 8 or 10 days. The splenic enlargement so often noted in the 1889-90 epidemic was not present in this 1918 type. Another peculiarity that might here be noted is the presence of a leukopenia at the height of the fever, 3000-4000 white blood cells per cubic millimeter. By the fourth day, a moderate leukocytosis was present. It is stated by Gotch and Whittingham that a marked relative neutrophilia during the leukopenia was observed, followed by a slight increase of the small lymphocytes after which the leukocytosis set in, as shown by daily differential leukocyte counts.

In cases of true Pfeiffer's bacillary influenza, there was leukopenia followed by leukocytosis, but the leukopenia was accompanied by lymphocytosis and the leukocytosis by neutrophilia. Such a blood picture as that seen in the present epidemic, strongly suggests a micrococcal in contraindication to a bacillary infection. There is a marked fall or almost total absence of eosinophile cells during the fever. In malaria, at the height of the fever, there is a leukopenia with a relative neutrophilia and followed by a mononuclear increase in a few hours. Influenza may occur in an old case of malaria and, in such an event, the mononuclear increase does not appear for four or five days after the height of the fever. Gotch and Whittingham also found all blood cultures negative as did also Nuzum. In the majority of cases there was not much coryza; physical signs, in the early stages at least, were remarkably few. The facies, apart from the absence of coryza, very much resembles that of a measles patient a day or two before the appearance of the rash.

Cyanosis was an interesting and prominent phenomenon in a number of the cases. It was a bad sign. There was a dusky blueness of the face, finger nails and whole body. The face and lips were almost blue-black in color. The exact cause is not known. Some men attribute it to right-sided cardiac dilation, others to respiratory failure or "water-logged" condition of the lungs (pulmonary edema) and still others think there may be some change in the blood itself. Dr. David Riesman attributes the cyanosis to some methemoglobin disintegration and likens it to acetanilid- or gas-poisoning. He considers that it is neither a cardiac nor a pulmonary cyanosis but a "hemo-cyanosis." Dr. Riesman also calls attention to the fact that there were few cases of other forms of acute illness, during the epidemic wave. He says the infrequency of other diseases during the epidemic, such as follicular tonsillitis, is a curious fact. Another striking circumstance in this epidemic was the great number of physicians and nurses who became ill, and the large number of deaths among physicians and nurses from this disease. In some hospitals, 75 to 80 percent or more of the nurses and residents were ill with the disease.

Herpes was infrequent, certainly much less common during this epidemic than in the usual forms of grip and influenza, meningitis, malaria and pneumococcal pneumonia. The great frequency of acute nephritis in these cases has been emphasized by Dr. Napoleon Boston. The absence of a distinct chill in virtually all the cases that went on to a pneumonia is to be noted; there was some shivering or chilliness, but never a distinct chill. Attention has been called by a number of observers, that in Philadelphia, Camden, and vicinity, the left side was most often involved in the beginning of the influenzal pneumonitis cases; especially just above the bases posteriorly and along the posterior axillary line near the angle of the scapula (Riesman). In Boston, the right side was more often involved first. The earliest physical signs were given by percussion (greater resistance and greater impairment, a sort of

wooden resistant note) and auscultation (a shower of very fine râles at end of expiration). Symmers compares this pneumonic process with bubonic plague (*Jour. A. M. A.*, Nov. 12, 1918, p. 1482).

Dr. Boston states that 90 to 95 percent or more of his patients showed marked enlargement of the size of the heart (dilatation). In my own cases, the diameters of the heart certainly were increased, but not in nearly so large a proportion of the cases. Dr. Boston regularly found the heart dullness to be increased to ten and eleven inches and in only a few of the cases studied by him were the diameters less than ten inches. He believes the cyanosis to be cardiac in origin.

Frequently, even in terribly ill patients, the respiratory rate was slow, and this is considered as a favorable sign by some writers. The appearance of an increased respiratory rate, from 40 to 50 or 60, indicated not only an increase in pulmonary involvement, but also an increased toxemia. A definite air hunger, suggestive of a severe acidosis, made its appearance at times. (Solomon Strouse.) Strouse and Bloch consider an increased respiratory rate, even without elevation of temperature and pulse, as of more unfavorable significance than almost any other sign. These men found an absence of dilatation of right heart indicative of cardiac failure. Another fact, to which I wish to call attention, was the great frequency of nosebleed in my own cases, especially in young children.

Bacteriology and Pathology

Dr. Randle C. Rosenberger found, at necropsy, evidence mostly of an acute condition, dilatation of the heart, congestion, edema and massive bronchopneumonia, also, congestion of the kidneys. In only six or seven cases did he find, from spreads from the throat, a small influenza-like bacillus, but, never in pure culture.

By far the most common organisms encountered by him were, in the order named: pneumococcus, micrococcus catharralis, streptococcus and staphylococcus. He did no lung punctures and, hence, offers no statistics of cultures from the lungs.

Nuzum and others report that acute asphyxiative bronchiolitis was present clinically in the fatal cases. At necropsy, the pleural cavities contained blood-tinged fluid varying from 300 to 1000 mils in amount. Large quantities of blood-tinged, frothy fluid exuded from the air passages. The consolidation was always lobular in type and involved most frequently the lower lobes. Marginal compensatory emphysema presented itself with marked regularity. Large quantities of bloody serum bathed the fibrin-free smooth-cut surfaces of the lung. The right heart was acutely dilated. The liver and kidneys were heavier than normal and the seat of fatty changes and parenchymatous degeneration. Edema of the leptomeninges was not uncommon.

Bacteriologic studies and reports of the pandemic in Europe show that the influenza-bacillus was found only exceptionally while pneumococci, streptococci and micrococcus catharrhalis were recovered with considerable regularity from the sputum-, nose-, and throat cultures. Gruber and Friedmann, in Berlin, failed to find the influenza-bacillus, and report streptococci and pneumonococci as the common agents of the complicating pneumonias. Kolle, in Frankfurt, failed to find B. influenzæ (Pfeiffer's) in any of the cases which he had examined. As stated elsewhere, Gotch and Whittingham isolated micrococcus catarrhalis with which they claim to have produced the disease in man; whereas, Park, in New York, and Keegan, in Massachusetts, have isolated the influenza-bacillus in a high percentage of cases, in soldiers and sailors. Nuzum and his associates think that the highly virulent strain of pneumococci may be the causative factor in the production of these highly rapid and fatal lobular-pneumonia cases. Cultures taken from some of my cases, and examined and studied by workers in the laboratory of the State Department of Health were taken from sputum, nose, or throat.

The results were:

90 cultures showed streptococcus.
25 cultures showed staphylococcus.
8 cultures showed pneumococcus.
2 cultures showed streptococcus and pneumococcus.
6 cultures showed micrococcus catarrhalis.
6 cultures showed micrococcus catarrhalis with staphylococcus.
18 cultures showed micrococcus catarrhalis and streptococci.
5 cultures showed micrococcus catarrhalis with a small gram-negative bacillus.
3 cultures showed streptococcus and small gram-negative bacillus.

1 culture showed staphylococcus and small gram-negative bacillus.
2 cultures showed small gram-negative bacillus.
1 culture showed streptococcus and staphylococcus.
13 cultures were unsatisfactory.

184 therefore, a total of eleven (11) cultures show a small gram-negative bacillus.

3 or 4 showed Pfeiffer's bacillus with or without other organisms (streptococci).

So that, out of about 185 to 190 cultures, the streptococcus was present alone or with other organisms in about 122 cultures. E. E. Ecker (*Jour. A. M. A.*, Nov. 2, 1918) suggests that the difficulty in isolating the Pfeiffer bacillus, by plating on blood agar alone, was due to the fact that other organisms, such as pneumococci, staphylococci, and micrococcus catharralis, tend to obscure the colonies of influenza-bacillus and overgrow them. Cantani showed that bile did not destroy the virulence of influenza-bacilli. Therefore, Ecker used bile or bile salts, because of the dissolving action of bile on pneumococci and its inhibitive effect on other organisms. He used sodium taurocholate in 0.5-percent solution, mixing the bronchial secretions with it for 20 minutes and, after exposure, streaks were made on human blood-agar plates. The organisms stain nicely with aqueous fuchsin—are gram-negative and often look like b. coli.

At Camp Sherman

At Camp Sherman, Friedlander and McCord report that about 11,000 cases of a population of 33,000 (over 33 percent) were taken down with the disease. Of these, over 2000 (18.22 percent) developed pneumonia. Of the total number affected with influenza, nearly 8 percent died (842 deaths occurred in the 2000 cases of pneumonia and influenza). They did not demonstrate the Pfeiffer bacillus as the causative organism. Pneumococcus (IV) was the predominating organism. The pneumococcus was detected in 53 percent of necropsies. The hemolytic streptococcus occurred in 47 percent of thoracic exudates. Cultures from throat and nasopharynx of influenza patients showed pneumococci in 54 percent and hemolytic streptococci in 4 percent of all examined. Cultures from the sputum of influenza-pneumonia cases showed characteristics of type-IV pneumococcus in 80 percent.

Immunity

An attack of influenza does not afford immunity; relapses are common; the disease increases susceptibility to pneumonia, typhoid fever, tuberculosis, and ear and sinus disease.

Sequelae and Complications

(a) Neurasthenia, and (b) confusional psychoses may follow after attacks of influenza. Two of my patients had (c) paralysis (mild type) of one side: arm, leg, et cetera. One of these, a man of 60, also had a hemianopsia. The other case was that in a young woman, who had a (d) complicating endocarditis (mitral) and, probably, developed the paralysis as the result of an embolus. The old man had some arteriosclerosis and a small hemorrhage occurring into the internal capsule and this probably caused all his trouble. Whether the severe toxemia and acidosis had anything to do with these paralyses, I do not know. One patient, a little girl, who had an attack of influenza and pneumonia four to five weeks ago, developed (e) a meningitis, a tentative diagnosis of tuberculous meningitis being made. The first lumbar puncture gave a clear fluid under considerable pressure, and no organisms could be demonstrated after prolonged search, although about 50 mils of fluid was withdrawn. Wassermann test of the spinal fluid was negative; the Noguchi globulin test + + + + ; cell count 920 per cubic millimeter; polynuclears 70 percent and mononuclears 26 percent. Upon standing, a fine velum developed. At the second spinal puncture, 40 mils of slightly turbid fluid was withdrawn. On this occasion, a purulent sediment formed on centrifuging the cerebrospinal fluid. This fluid showed cell count 2500 per cubic millimeter; 85 percent polynuclears; meningococci were present intracellularly in very small number. 30 mils of antimeningitis serum was given intraspinally by the gravity method. So far, the child has received three intrathecal injections of the serum. (f) Empyema; quite a number of cases have recently been reported by several Philadelphia surgeons. At a recent medical meeting, Dr. Moses Behrend stated that he had operated on 17 empyemas in less than two weeks during the epidemic following influenza. (g)

Mastoiditis; I have not seen a single case during the entire epidemic. I saw a number of cases, though, in which some otitis without suppuration developed and which, therefore, did not demand paracentesis. (h) Appendicitis has also been reported as being on the increase during and following the epidemic. (i) Splenic, renal, pulmonary and cerebral embolism may occur. One of my patients had an embolic splenitis, probably associated with a similar condition in the kidney. (j) Retinitis, with hemorrhage into one or both eyes, may occur. (k) Several of my patients, besides remaining nervous, irritable, and at times melancholy, also complained of an annoying intercostal neuralgia. (l) Dilated weakened heart conditions will no doubt be more frequent for a number of weeks to come, and will be seen by all of us during the coming winter months.

In my own practice, therefore, the most common complications and sequelæ were: Pneumonia, pleuritis, otitis, endocarditis, paralysis, cardiac dilatation, meningitis, psychoses, appendicitis, mastoiditis, splenitis, retinitis, and even insanity. Heart failure was not unusually common.

Acidosis

Palmer, in the *Journal of Experimental Medicine*, states that metabolism during the febrile stage of pneumonia results in the production of considerable amounts of acid substances. The increased ammonia and acid excretion, the low carbon-dioxide content of the blood, the diminished affinity of the blood for oxygen, and the retention of large amounts of alkali, indicate an excessive acid-production during the febrile stage of the pneumonias. There is excreted, in the urine of subjects ill with acute lobar pneumonia, a large amount of organic acid. My own impression is, that the great majority of deaths and various complications were due to the very malignant toxemia and the associated acidosis.

(*To be continued.*)

After Thirty Years—VIII

Notes and Reflections on Life and Work

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois

THE medical code of ethics contains a chapter on the duties of patients toward their physicians, and there is no doubt that such an exposition of the relations that ought to obtain between patient and physician would be capable of doing a great amount of good if it could be brought systematicaly before the public. But, the difficulty is, how to present the matter. If a doctor tries to tell his patients their duties, it is likely to be resented, because the motive is misunderstood. The laity are quick to conclude that the doctor is talking for his own benefit. Any attempt to give instruction of this nature calls for the greatest tact, and should always be put on the basis that it is possible to give better services if certain principles are observed. It would be practicable to do much in the way of educating the public in these matters through the columns of the newspapers and magazines. There is no reason why the health articles so numerous in these publications should be limited to exploiting all the latest fads, as many of them are at present.

The various duties of patients formulated in the code of ethics are mainly of advantage to the patient himself, although in helping him they also aid the doctor, by enabling the latter to render far better services, and, yet, with less worry and fatigue to himself.

Changing the Doctor

One of the greatest evils we have to contend with as medical men is that tendency shown by such a large part of the public to skip around from one doctor to another, not infrequently changing several times during one illness. If only people could be brought to see that good service is impossible under those circumstances, a great benefit would ensue both to doctor and patient. Every family ought to have a family-physician and should let him see that they lean upon him and trust him in all matters concerning health. Not only

should they always depend upon him in sickness, but, in health, also, they should look to him as their guide in learning how to keep well.

The principal cause of the haphazard method of employing any doctor happening to be handy is the ignorance of the people themselves; another is that this class of people usually do not pay their bills. They employ one doctor until they have run up a good-sized bill; then a favorite method is, to pretend that the doctor "did not treat the case right", and refuse to pay the bill. In my early years of practice, I received some painful shocks from people of this kind, when I still was simple and trusting and did not think it possible that there were people that would deliberately make a false charge, for the purpose of evading a doctor's bill. But, alas! it would be a kindly nature, indeed, that would not grow somewhat cynical after a life spent in encountering the various sides of human nature with which the doctors do come in contact.

Doctors also are somewhat to blame in this matter. If they would refuse to take a patient that wants to change without good reasons, it would have a wholesome effect. What—a doctor refuse to accept a case as a matter of justice to a competing practitioner? Why, that would be a new thing under the sun! However, it would produce a good effect upon the people and win him the respect of his confrères.

The reasons that induce people to change doctors as a rule are utterly frivolous. The advice of a neighbor who knows nothing about the subject more often than not is the basis for making the change. The patient does not take into consideration the fact that his neighbor has no reliable means of judging a doctor's skill. If he does not get well promptly, it must be the doctor's fault; so, he asks his friend, "Do you know a good doctor?" Really, if he were buying an automobile he would exercise far more care in his selection than he does in selecting the man that will hold the lives of himself and his family under his control! Of course, his friend *does* know "the *very best* doctor in town" and recommends the one in whom he happens to have faith at that particular time. However, the kindly neighbor does not always wait until he is asked, but, volunteers his (or more often her) advice to a family that may have been perfectly satisfied until their faith was unsettled by the mischiefmaker's tongue. These meddling busybodies would do less damage if the doctor called in to take another's case were to do some questioning, somewhat as follows:

"How long has this patient been sick?" Ans.: "More than two weeks."

"Haven't you had a doctor?" Ans.: "Oh, yes, we have had three; but, we are not satisfied and, as we have heard of some cases that you cured, we wanted to try you."

"Who are the doctors that you have tried?" Ans.: "First, Doctor White, then Doctor Brown, and now we have Doctor Black."

"What was the matter with Doctor White?" Ans.: "Well, my husband was not doing well, so, we called Doctor Brown, but, he did not seem to help any better than Doctor White. Then a friend told us that Doctor Black was the best in the city and that he had studied abroad; so, we tried him."

"And what was wrong with Doctor Black?" Ans.: "Well, he didn't seem to take enough interest in the case."

And now is your opportunity for a bit of timely, wholesome preachment.

"To tell the truth, dear lady, I'm not a bit surprised that the Doctor did not take much interest in this case. He considered that he would be dismissed in a few days, anyway, and, so, would not have a fair chance. For the same reason, I do not wish to take charge of this case. I want to serve people that trust me and have confidence in me. No doctor can do his best when he feels that people are liable to turn against him at the mere word of some neighborhood-gossip. I know Doctor White. He is a skilful and reliable man. If I were sick, I should be willing to intrust myself into his hands. If you had been faithful to him, he would have done more for you than an endless succession of doctors possibly could do. People that are always changing doctors get the poorest service in the world. Take my advice and try a new plan. Pick out the doctor that you like best in this town and make him your family-physician. Trust him and let him feel that you trust him. If a patient grows very seriously ill, then, above all other times, trust him. It will strengthen his hands. Do not defeat his efforts by discharging him and calling in a man uninformed in the case, who first must study it for a while before he can do as well for the sick one as can the man

who has watched the condition from the beginning. Have counsel, if you wish, but, let your regular attendant realize that it is not for lack of confidence in him. Thus, as the years go by, he will become more and more valuable to you, because he will come to know the constitution of each member of the family. Follow this advice, and the time will come when you will thank me for it. Good morning!"

If the more ignorant portion of the public were to learn that they can not pick up and drop doctors at a mere whim, they would acquire a new respect for the members of our profession. The little homily given above is one that I have used more than once—in substance, if not in exact words—and, while I did leave an indignant family at such a time, some of those same families, on reflection, have requested me afterward to become their family-physician. Still, even if this does not happen, nothing will be lost. These folk only are a source of worry and annoyance as long as they are unreformed.

This flippant manner of picking up and dropping a doctor as they would a kitchen-maid is due, in the case of some people, to an idea that it shows independence of judgment; in the case of a larger number, it is the result of a cold indifference and a lack of human sympathy. They are as cold-blooded as a fish. A doctor is to them no more than the merchant who sells them paints. They see no difference between relieving suffering and cleaning house. A doctor may pull them back from the brink of the grave, yet, the next time they need help, they will call anyone they can get a hold of; and they see no difference: a doctor is a doctor, and one is as good as any other. They have no sense of gratitude or personal regard and could not understand such a thing as a bond of sympathy between those that have passed through great perils together.

Selecting One's Doctor

In selecting a family physician, people often exhibit a sad lack of judgment. One would, naturally, suppose that intelligent persons would be slow to employ a boaster, a drug-addict or a drunkard; yet, there are plenty of people indiscriminate enough to accept a braggart's own estimate of himself and to consider him a great man, because he is always telling of his enormous business and of his wonderful cures. It is not an uncommon thing to hear ignorant people say: "Yes, I know that Doctor So-and-So drinks, but, then, I think he knows more drunk than most doctors do sober." Even the drug-fiend, the slave of morphine or, worse, still, of cocaine, finds people that will trust their precious lives and the lives of their dear ones to his care.

Frankness

It would seem unnecessary to remind intelligent people of the need of being perfectly frank with their doctor. Yet, experience proves that such is not always the case. It is not an uncommon thing to find that a patient has concealed from his physician some important fact, some pet sin or indulgence. Sometimes this is discovered later, perhaps through some other member of the family, who privately supplies the doctor the suppressed information.

How anyone can expect results from treatment when highly important facts have been suppressed, is difficult to understand. Perhaps one of the commonest instances of this sort is when a patient having venereal disease denies all knowledge of where or when he contracted it. The doctor may not care particularly to know *where* the contagion occured, but, it is of some value to know *when*, and the fellow who "caught it in the water-closet" is, usually, hazy as to the date. However, he is not skilled in camouflaging, so, in faking his story, does not consider that a knowledge of the date may be of value to the physician whom he expects to cure him.

It is, as a rule, well to let a patient tell his own story in his own way, even though it must be supplemented by systematic questioning. There are patients, however, that are so prolix in their description, so afflicted with a perfect diarrhea of words that, when the doctor finds himself "gassed" by one of this kind, he must, in self-defense, resort to some method of stemming the torrent. It is told of old Doctor Abernethy that his favorite way of corking up these exhaustless fountains of loquacity was, to put a thermometer under their tongue and keep it there until he had completed his examination. As Doctor Abernethy died before the clinical thermometer was invented, the story is only another example of the tendency to attribute novel occurrences to any eccentric individual who is safely dead and can not enter a denial; for all that, it contains a valuable suggestion. If all the stories that have been attributed to Abraham Lincoln had really been told by

him, he assuredly could have found little time for doing anything else.

Obedience

Obedience is one of the things that a patient owes to his doctor, and one that it is not always easy to secure. Unless the case is in charge of a nurse, we are never sure that our instructions are being carried out. If we take note of how many doses of medicine we have provided for the patient, we often find at the next visit that, as the number of doses remaining prove, it has not been taken regularly; unless, indeed, he has been cunning enough to throw some of it away. There are patients who will report themselves as being no better or declare that the last medicine did them no good, when the truth is that they did not like it and, so, took that method of having it changed. One of the advantages of dispensing one's own drugs is, that it makes it easier to keep track of the patient's obedience. In leaving tablets or granules, one can leave just the proper number to last to the next visit, with a small margin for unforeseen delays. In writing prescriptions, this entails extra expense to the patient, since prescriptions for small amounts are relatively more expensive than if more is ordered. This, though, by no means is the only advantage in doing one's own dispensing.

Meddlers

One of the pests that make a doctor's life a burden is the meddler. He or she (and it most often is the latter) may be one of the family, a relative or merely a neighbor. There are women who seem to derive a vicious pleasure in undermining a family's confidence in their doctor. With a great show of interest and sympathy, they are always ready with that fiendish question, "Do you think that the doctor understands the case?"

I have lately had under care a case of tuberculosis that has made me very weary at times. Both the patient and his family are of that class of people who are very susceptible to suggestion, and for a while, at first, every time I saw him I found either that he was doing something that I had not ordered or he came asking permission to try something that a neighbor had suggested, or else his family was having the blues because some friend had said that their doctor ought to have him do this or that, for, "don't you know that that is the very latest treatment?" It was only after several very emphatic heart-to-heart talks that I got him to understand that, if he wanted my services, he must turn a deaf ear to all such meddlers. As soon as he did this, he began to improve; which could not occur as long as his mind was continually being upset by outside criticisms and suggestions.

Some years ago, I had in care a case of typhoid fever in a girl of eighteen, the only daughter of an intelligent family and, of course, idolized by them. It was a severe case and in the third week the prognosis was exceedingly doubtful. The family had shown me entire confidence; but, in the crisis, the mother's anxiety became so great that, when a meddling neighbor persuaded her to try the latter's doctor, assuring her that he had cured a case "just like this", the mother's poise was upset and she informed me that they had decided to make a change. I asked her, why. She replied that her daughter was not getting any better and they thought it well to try another doctor. I asked her what reason she had for thinking that another could do more than I was doing, and she frankly stated that her neighbor had told her of a man of remarkable skill. Then I said to her: "You must do as you think best, but, before you really decide, take a few hours to reflect on these two questions: first, is your neighbor really capabe of judging between the skill of two doctors? Has she a medical education?' And, second, 'Do you think it is good policy to trade horses while crossing a stream?' Think this over for a few hours, talk it over with your husband, then let me know what you decide."

That evening, they called me up, telling me to continue in charge of the case. Two days later, the patient was past the crisis and improving. Thereupon the mother said to me: "Now, if we had changed doctors, we should have given the new doctor all the credit and we should always have believed that your treatment was wrong." I replied: "You see how easy it is to do an injustice. But, then, we doctors are used to that." From that time on, I had no more faithful clients than this family.

[*To be continued.*]

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The Physiological Ego

By CHARLES J. LEWIS, M. D., Chicago, Illinois

EDITORIAL COMMENT:—The author of this interesting article suggests that a mapping out of the cortex similarly as he has shown it for the brain, will enable the physician to recognize his incipient insane patients and those merely "generally nervous."

PRIOR to the rise of medicine, only vague notions of Self, the Ego, and the Self-Consciousness were possible.

The first steps toward clarifying the situation were taken by the Greek physicists Empedocles and Democritus, who flourished at about between 460 and 300 B. C. They postulated that thought is composed of small and round atoms. These atoms entered through the senses and, passing to the soul, became thought. By substituting "brain" for "soul", this theory becomes an established fact.

The nervous system begins in the tips of afferent nerves, enters the cord and brain, and thence out to muscles. In like manner, the "atoms" of Democritus enter the senses, sense the objects that impressed, and at the same time form images of the objects which, upon reaching the soul, become ideas.

This unprecedented advance proposition Plato wellnigh suppressed beyond resuscitation, and he doubtless would have succeeded if Hippocrates had not demonstrated that diseases can be cured better by means of medicine than by sorcery. Still, this would not have made Hippocrates the "father of medicine" had he not been taught by Democritus the basic principles of his art. Dr. J. B. Tuke implies as much by saying that he had, in Democritus, a great master. Lang also has a good word for this acute philosopher when he says: "It is with few great men of antiquity historians have dealt so despitefully as they have with Democritus."

After saying that everything appertaining to thought, including the ego, the self, and self-consciousness, is sacred to medical men, and not to the psychologists, I will take up the central idea of this essay.

For centuries, the study of the genesis of thought has been classed under the form of psychology. This, in turn, was called the science of the mind. It is also said that knowledge is sourced (a) from the senses and (b) from the Supreme Intelligence. Only the first of these positions is tenable. What is amazing is, that the "images" were said to be seized by the logician's Ego and immediately turned over to another, nonspacial entity called mind. To a physician, such an ego is as powerless to do anything as is the "mind" unable to raise itself up into sensuous experience.

"Cerebrology", Instead of Psychology

There lived in France in the first half of the seventeenth century two medical men who had much of the thinking-powers of Democritus. These were Cabanis and La Mettrea. The former held that the brain secreted thought as the liver secretes bile, while the latter declared that no one but a physician could efficiently talk about what is going on in the brain. Basing a remark on these statements, it is obvious that a physician's definition of the ego differs in a very pronounced manner from that of a philosopher.

Since the senses gather all of the material necessary for thought, it can readily be seen that they are of vast and primary importance, in that they alone gather all of the impressions used in producing ideas.

Is it necessary for a member of the medical profession to call aloud to his confrères to come at once to the rescue of the age-long slavery and domineering idea of the control of the brain by the mind? If we, as a body, had been alert, we should not be humiliated by being told that the specific nature of the socalled Ego, Self, and Self-consciousness had been a problem since the dawn of philosophy. Nor would its discussion at times have been hot and fierce. Among the disputants, David Hume was moved to say that, "Nothing in philosophy is yet established." And Baldwin, speaking on the same subject, remarked that the "self" or "ego," as set forth by some philosophers, defied analysis.

The point at issue, when clearly stated, is: That the specific nature of the socalled ego, the self, and the self-consciousness, has

been a problem since the dawn of philosophy. It is to its solution the medical profession should bend its efforts and make clear its physiological basis. The solution began and the day dawned when Democritus appeared on the intellectual horizon. That day, however, was of short duration, owing to the opposition of Plato, who not only dimmed its brilliancy, but, put the germ of cerebrology to sleep, in a crysalis-like life, for more than two thousand years.

The Sense Impressions Unified in the Association-Center

Coming down to our time, the philosopher's ego and the crass consciousness of the psychologist and their deductions concerning brain-work can best be eliminated from our textbooks by teaching cerebrology instead of psychology.

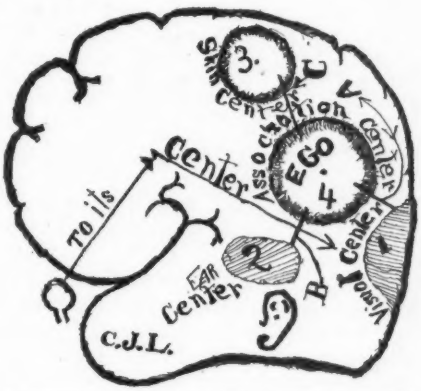
Cerebrology is a discourse on the cortical centers, the sense organs, and the nerves that connect them with the centers. As all of our knowledge—knowledge of every description—is sourced chiefly through the sense of sight, of hearing, and of feeling, their description and that of their centers, will be based upon anatomical and physiological grounds.

Without further ado, the senses of sight, hearing, and feeling are wholly separated from each other, and so are the nerves that connect them with the cortex. So, too, are the three centers apart from each other. In other words, they are like islands in mid-ocean—without nerve-bridge connection. These "islands" are variously called sensation-centers, perceptive centers, and localization-centers; by this author, however, and in this essay, they are called "ideating centers," under the assumption that it is in them that ideas of things are constructed. The term "perception" however, is objected to, on the ground that by most writers it is employed to imply that there is in man's head a "perceiver" other than his brain.

The layman as well as the physician is aware that the senses are separate, but, only a few of either class have stopped to consider that their centers also are separate. Being apart and working entirely by themselves, their products necessarily are apart.

To apply this thought in a concrete form, we will make use of a cowbell. The eye sees the bell, the ear hears its sound, and the hand feels it at the instant that it is ringing. Each sense-organ makes a specific image of the bell. These images, upon reaching their respective centers, are by them fabricated into three entirely different ideas of the bell. Being apart and having no hegemony (leadership) among them, they are utterly unable to unite their ideas for the formation of the Ego.

What now is the situation? It is this: if these centers were all there is of the cortex, each one of us would be three personalities, instead of one. Is this a mince-



SHOWING, SCHEMATICALLY, HOW THE EGO IS PRODUCED.

1, Visual center in the cortex. 2, The hearing-center. 3, The feeling-center. 4, The association-center. *A*, The path connecting the visual center with 4. *B* and *C*, paths connecting the hearing-and-feeling-centers with the association center (4) and home of the Ego. Line marked "to the center" connects the eye with the visual center in the cortex.

pie dream, a fancy, a foam, a mouthful of fiascos? What has been said above estops it from becoming any one of these. Still, to make of each one a "five", would, according to present teaching, be wholly illogical, be a predicament in psychology, and a travesty amounting to a monstrous misstatement of all that has been believed, in the past, about the ego being an entity. Nevertheless, it is incontestable. These three species of ideas, as several times mentioned, will always remain unknown to each other as long as they will stay in their respective centers, fully as much as if they were three persons speaking different tongues.

It will be interesting to recall three great men of antiquity who set in motion three

massive movements that tended to make the acquirement of knowledge easy—men that instituted three epochal periods in the unfoldment of practical, illusionary, and scientific thought. These superintellectual persons were Hippocrates, Plato, and Democritus. The first became the "father of medicine". The second became the founder of idealism and the third became the "father" and founder of a system of brain-physiology (in a sense appropriate for this paper), but, by the writer called cerebrology.

Reverting to one unfinished point: It may be asked, "At what period did man first learn that he is a self, is other than the stone he stubbed his toe on?" The candid answer is, "We do not know". At an off-hand guess, one may place that time to as far back as the age of barbarism.

If the "self" has such an ancient origin, it is remarkable that some of the learned of the past did not have the wisdom to give it a proper meaning. That they did not, is evident from their having clung to its abstract meaning through the Egyptian, Grecian, and Roman cultures, through the dark ages, the renaissance, and the reformation, and even, for the most part, down to the enlightenment of modern times. By regarding these traditioners as idealistic psychologists, it will not be far from the facts in their case to say that every one who went into the study of the brain with the intention of making it the abode of the supersensuous ego, of the nonextended mind and a unitary consciousness, was from the start doomed to disappointment.

War-Flour as an Illustration

The association-center is a cluster of nerve-cells in which the nerves from the senses mentioned terminate. It differs from these in that it is but *one*, as illustrated in the schematic drawing [p. 913.]

This *one* is a workshop. It gets its raw material in the raw condition we call ideas from the five ideating centers. These it churns-up in its protoplastic cells until all of the different phases of a thing observed are consolidated into one product—a thought. The nearest concrete object the writer can seize upon is, "war-flour". This is declared to be composed of (to be a compound of) the mill-products of wheat, oats, corn, rye, and barley. In so far as this concrete symbol holds, it typifies how a single thought is produced from a compound having five ingredients. To follow the simile further, the compound loses its compound nature as made up of wheat, oats, corn, rye, and barley, and crammed into a one—"a war-flour"—in the association center. This delineation is mechanical, but, it typifies nerve-cell action, is, physiologically, probable, and, hence, convincing.

In contrast (Ward), "self is a psychological product of thought, not a datum of sense; hence, while Berkeley called it a notion and Kant called it an "idea" of the reason, Hume treated it as a philosophical fiction." ("Encycl. Brit.", vol. xx, 9th Ed., Footnote, p. 83.)

It has been said above that the association-center brings out a *single* meaning from the three phases of a cowbell. To the uninitiated, this needs elucidation. Speaking through the mouth of Roscellinus, the medieval nominalist, the meaning or conclusion reached would not contain a nominalistic visual idea of a bell, a nominalistic hearing-idea of a bell, nor, yet, a nominalistic touch- and temperature-idea of a bell. Instead, the three phases (ideas) of a bell would be merged into a one-bell-thought.

It is by these three nominalistic ideas being processed into One in the association-center that the physiological definition of the Ego, the Self, and the Self-Consciousness is postulated and verified.

The Author's Aim and Hope

To bring this epoch-making physiological principle into the limelight, to fasten it upon the attention of every student in the land, to rivet and clinch the meaning for all time, to embellish it with an easily grasped verification, and to standardize it with an unmistakable and comprehensive definition, has been the urge of him who, after seeing the learned in supersensuous studies searching here and searching there, and failing to see the light, he himself searched for a satisfactory answer to this hitherto most perplexing question, in the partially cultivated field of physiology.

It is a faraway hope that this definition will dislodge from all future writings every definition that will be in the least tainted with the abstractions of mysticism concerning the source and substance of the Ego, the Self, and Self-Consciousness.

An Explanation of Some Failures in the Use of Glandular Extracts

By HENRY R. HARROWER, M. D., Los Angeles, California

IN the past few years, the use of glandular extracts, or organotherapy, has leaped into considerable popularity and those of us who have been especially interested in endocrinology are frequently asked for information as to why a certain preparation did not bring about the anticipated therapeutic result.

As with every phase of the treatment of disease, we, naturally, expect to encounter a certain proportion of failures from the administration of organotherapeutic preparations, and, it could hardly be otherwise, for, we have not as yet found the "elixir of life" that so many have vainly looked for.

I have often heard statements something like this: "I tried that treatment faithfully for several weeks, and it seemed to do no more good than other things I had prescribed." Among these, corpus luteum, mammary extract, even thyroid gland have been mentioned. At times, organotherapy as a whole has thus been criticized, despite the limitations of the critic's clinical testing, and this experience may profitably be used as the text for a short "sermon," which may bring out some helpful suggestions for those that are expecting great things from organotherapy, while still somewhat inexperienced in its employment.

First of all, we must admit that, usually, organotherapy is tried in difficult cases of long standing, where other measures have been tried and have failed. Here, naturally, the results will be less satisfactory just as any treatment is likely to be less effective the further advanced and more complex is the disease. It is true that organotherapy deserves to be considered in just this class of cases, and it has been observed many times that, when other things have failed, organotherapy has enabled us to get wonderful results, and perhaps we have acquired an undue enthusiasm and expect too much of this method. None the less, we must not deprecate organotherapy because it can not accomplish the impossible.

There is another, very important factor that sometimes seems to be purposely ignored, especially by those who do not want to be convinced. It has been learned that the real basis for the benefits to be expected from organotherapy is in the principle of homostimulation. "Extracts of an organ exert on the same organ an exciting influence, which lasts for a longer or shorter time. When the organ is insufficient, it is conceivable that this influence augments its action, and, when it is injured, that it favors its restoration." (Hallion.)

This means that we must have active preparations and responsive organisms. It is possible to have an inactive remedy, I will admit, though in these days these products far excel those of years ago. But, how about the reactivity of the patient and the response of those cell-aggregates it is desired to arouse or set into renewed motion? Especially in chronic disease where the conditions are the results of constant and long-continued irritation, malnutrition or toxemia, the reeducation of the worn-out endocrine glands is no small task. And, too, the degree to which these glands may be affected in one case, as compared with another, seemingly quite similar, varies very much, indeed. One individual responds to hormone stimuli rapidly and thoroughly, while another does not. One child "catches everything going," while another "has never been sick in its life." It is merely a matter of the physiological substratum—and this, indeed, is an intangible quantity.

So, we continue to use organotherapy, expecting a certain percentage of delayed results and even some entire failures, and are more than satisfied with the numerous excellent responses to the natural hormone stimuli that the administration of glandular extracts makes possible.

Another cause of failure is one's stopping before he should. In our "text" above, "several weeks" is the time stated as being the limit of the doctor's patience. Now, organotherapy is useful largely because it is a means of encouraging or educating certain organs to perform their service to the body; and, this is not a matter

of days or even weeks. When we give morphine, we expect practically immediate results. It works quickly, not by education, but, by paralyzing certain functions. Strychnine also works quickly, not by education, but, by abnormal stimulation. And how long does its effect last? As a matter of fact, the subtle influence of hormonetherapy is, indeed, a reeducation of certain organs, and this always takes time and, as we have seen before, depends a great deal upon the responsiveness of the cells. To be successful, organotherapy always should be continued for a generous time; and, further, it should be "tapered off" to see how well the endocrine glands can get along without the additional hormone stimuli.

Still another potent reason for failure is, the not unusual tendency to ignore the intimacy of the ductless glands and their most important interrelations. The subject of reinforcing a certain extract is too comprehensive to discuss here, but, is the beginning of the road to success with organotherapy, and I merely mention as one of the causes of failures a habit of overlooking associated derangement of other glands dependent upon, or at least associated with, the particular ductless gland that you may have discovered being at fault and which you are attempting to treat. In other words, combining gland extracts is likely to make for better results. And here, let me say it with emphasis, is the "open sesame" to the successful application of organotherapy in at least 90 percent of all cases in which this measure is indicated. It is not possible for a single endocrine organ to be affected, slightly or seriously, without reflex (hormonic) effects upon others of the allied organs.

The last, and quite the most important of all the causes of failure with organotherapy (and, for that matter, any other method of treatment) is an incomplete diagnosis. Too often we learn what appears to be the matter with our patient, but, not *all* that is wrong. I have repeatedly stated that the medical profession has more sins of omission than of commission. We overlook things. The minor form of hypothyroidism is very commonly ignored entirely. The consideration of the endocrine side of disease has been passed by until very recently. Disorders of the ductless glands had to be "real diseases" before we recognized them, and hidden functional aberrations were never sought for. Now all is being changed and, as our eyes are being opened to the importance of functional pathology, not only are we recognizing the early influences of endocrine dysfunction, but we are learning to consider our patient as a whole rather than as an individual with some obvious disease.

Here, then, lies the greatest source of failure in medicine—we have been treating diseases rather than patients! As long as we consider a case of, say, hypothyroidism as being suited for organotherapy and ignore the demineralization, the acidosis or hypoalkalinity or the original active cause of the disturbance—some hidden focal infection, a dilated and overloaded colon, a dietetic habit that has overburdened the detoxicating department of the body or other common underlying causes of disease —we are not going to get the optimal results from our organotherapy.

The reverse is equally true: even if we are most thorough in our diagnosis, and our clinical and laboratory findings are about perfect, we can reduce the efficiency of our treatment quite considerably by omitting to consider the effect that the various derangements may have had upon the endocrine functions; but, if, with this information in mind, we make a concerted effort to encourage these overworked glands and favor the reestablishment of their normal functional service to the body in conjunction with the other things we need to do, we shall most certainly accomplish more.

There are other causes of failure with organotherapy that will occur to the thinking physician and which need not be mentioned here. If you are convinced that a certain procedure is destined to fail, likely as not it will! If the patient is sure your measures are not going to help, the psychic condition will surely overbalance a large part of the possible benefit. So with organotherapy.

We must realize that organotherapy is but a factor in our work and that we can not and must not expect the administration of a few tablets or capsules to reeducate, rejuvenate, and remake our patients.

What Others are Doing

DIAGNOSTIC STANDARDS OF TUBERCULOUS CERVICAL ADENITIS

The present standards are included in that portion of the work relating to the standards of diagnosis and treatment of cervical adenitis that is to be found in the third edition of the pamphlet on Diagnostic Standards recently issued by the Framingham Community Health and Tuberculosis Demonstration. These standards will undoubtedly repay careful reading by every physician. In a foreword to the third edition, the pamphlet states that it is recognized that diagnostic standards can never be completely satisfactory for, almost inevitably, they are either antagonistically dogmatic or qualified to the point of futility. Consequently, these standards are presented with some trepidation and aim merely to assist the physicians to an appreciation of such as substandard strength, size and enobscure tuberculous lesions.

Under the heading Diagnosis, the standards are grouped with reference to the following considerations:

1. Enlargement of the cervical glands.
2. Exposure.
3. Other causes of enlarged cervical glands.
4. Constitutional signs and symptoms when the cervical glands are enlarged.
5. Duration of enlarged glands.
6. The relation of diseased tonsils and carious teeth to enlarged cervical glands.
7. Pathological examination.
8. Confirmatory evidence.

Striking points put forward are: That any well-marked enlargement of the cervical glands that persists for several months after throat and mouth infections have been relieved should be considered tuberculous. That a history of exposure giving enlarged cervical glands should have its due weight in diagnosis. That enlarged glands being present, constitutional signs and symptoms such as substandard strength, size, and endurance of a patient, and anemia, malnutrition, fever, and others, should suggest the possibility of a diagnosis of tuberculosis. That, in general. tuberculosis should not be considered unless the enlargement persists for several months following elimination of other possible causes, such as diseased tonsils, carious teeth. That a number of acute and chronic non-tuberculous conditions can arouse more or less permanent enlargement of the glands. That, in case of any doubt as to diagnosis, it is well to remove a gland and submit it to pathological examination. Tonsils and adenoids that have been removed should be examined for tuberculosis histologically and by animal inoculation. If these are found to be tuberculous, it is wise to conclude that they are likewise tuberculous. Confirmatory evidence may be had by tuberculin skin tests and by the x-ray, and from manifest tuberculous conditions in other parts of the body.

The article concludes by laying down several well-recognized general principles in the treatment of tuberculous cervical adenitis. (*Amer. Rev. of Tub.* 1918. II. No. 9.)

HOW VARIOUS REMEDIES INFLUENCE SUPERFICIAL HEMORRHAGE

The result of a very interesting series of experiments conducted by Paul J. Hanzlik, of the Pharmacological Laboratory of Western Reserve University, relative to the effect of various medicinal agents, when applied locally, upon superficial hemorrhage, has been reported in *The Journal of Pharmacology and Experimental Therapeutics* for September. To the same number of this journal, Doctor Hanzlik has contributed another article, relative to the effects of systemic agents on hemorrhage, that is, remedies that are administered either intravenously or subcutaneously.

In making these tests, Doctor Hanzlik tried out, not only the ordinary local hemostatics, but, also a considerable variety of other agents, including various local anes-

thetics, antiseptics, narcotics, sera, and the like. His report seemed to show that a number of the much-vaunted styptic agents, including both proprietary and popular remedies were, as a matter of fact, of little or no value.

The tests-animals were dogs, the method consisting in continuous irrigation, with the selected remedy, of the denervated and incised footpad of the animal, collecting the washfluid at definite periods and estimating the constituents of the blood in this fluid. In addition to recording the amount of the hemorrhage, Doctor Hanzlik also kept records of the changes in the blood pressure. The basic liquid employed on controls and as a solvent for the remedy to be tested was a 1-percent citrate solution. Sixty-two different agents were tested, and as a rule three applications were made, in a few instances only one experiment being recorded. In the accompanying table the results are shown:

Diminished	Increased	Unchanged or variable
Acetic acid	Alum	Aconite
Atropine	Antipyrin	Camphor
Barium chloride	Apothesine	Coagulen (Ciba)
Caffeine	Beef-serum	Gelatin
Calcium chloride	Berberine	Histamin
Cane-sugar	Chelidonine	Kephalin
Cocaine	Chloral hydrate	Lactose
Digitalis	Chlorazene	Menthol
Epinephrin (1:1,000,000 and higher)	Dichloramine-T	Permanganate
Ferric chloride	Emetine	Sparteine
Glycerin of tannic acid	Epinephrin (1:10,000,000 to 50,000,000)	Thromboplastin (Squibb)
Hydrochloric acid	Ergot, fluid extract	Veratrum
Morphine	Horse-serum	
Physiologic salt solution	Hydrastis, fluid extract	
Peptone, 10-per cent	Hypochlorite solution (Dakin's)	
Pituitary extract	Hydrastinine hydrochloride	
Quinine	Narcotine	
Quinine-urea hydrochloride	Nitrite	
Silver nitrate	Novocaine	
Sodium bicarbonate	Orthoform	
Sodium chloride, 10-per cent	Papaverine	
Strophanthus	Peptone, 5 per cent	
Tannin	Salicylate	
Oil of Turpentine	Stovain	
Tyramin	Stypticin	
Zinc sulphate	Styptol	

The most powerful styptic agent was epinephrin (adrenalin). Assigning a value of 1 to epinephrin, the average values for several most important drugs were as follows: Epinephrin 1, pituitary extract, 1-4; tyramin, 1-14; acetic acid, 1-250; ferric chloride, 1-600; quinine and urea hydrochloride, 1-625; tannin, 1-5000; sodium bicarbonate, 1-25,000; barium chloride, 1-50,000; cane-sugar, 1-84,000; sodium chloride, 1-500,000.

Of the various agents employed as styptics, Hanzlik says that epinephrin, pituitary extract, tyramin, and dilute acetic acid are least objectionable. Barium chloride in 10-percent solution is quite effective, but, probably is toxic. The objections to the use of ferric chloride are well known.

It is interesting to observe that many remedies that have been accepted as of considerable value are shown to be of little service; for instance, such remedies as stypticin, styptol, antipyrin, and alum.

It also is interesting to observe that irrigations of wounds with alcohol-free tinctures of digitalis and strophanthus diminished bleeding, while at the same time they raised blood pressure. The same is true of sparteine and caffeine, but, because of their local irritating action, these remedies hardly are desirable. Cocaine causes a distinct diminution of hemorrhage, the maximum effect appearing in three and one-half minutes and lasting about ten minutes. Novocaine (procaine), stovaine, apothesine, and orthoform increased the hemorrhage slightly. Quinine and urea hydrochloride reduced it.

It is interesting to observe that thromboplastic agents, such as kephalin, coagulen and various brain-extracts sold under the

name of "thromboplastin" had little or no effect. The same is true of the various beef-sera.

All of the antiseptics mentioned, and including chlorazene, dichloramine-T, and Dakin's hypochlorite solution, increased the flow of blood, this result being in accordance with the statements made regarding them. The most marked increase in hemorrhage from these solutions came from the hypochlorite solution. From chlorazene, the results were somewhat variable. The increase in hemorrhage lasted about a maximum of 22 minutes with chlorazene, six to fifteen minutes with dichloramine-T, and from twelve to fifteen minutes with the hypochlorite-solution.

Turning now to the systemic effects of various agents introduced into the circulation either intravenously or subcutaneosly, Hanzlik found that the most effective hemostatic agents were epinephrin, tyramin, and pituitary extract. The effect of the following remedies upon bleeding are roughly parallel to the changes in the blood pressure, namely, hemorrhage fell as blood pressure fell: coagulen (Ciba), kephalin, thromboplastin, horse-serum, stypticin, gelatin, saline solution, emetine, and possibly peptone. The subjoined table gives an idea of the results obtained. It should be explained that the bleeding was diminished by digitalis and ergot only when fatal doses were given.

Bleeding diminished	Bleeding increased	Bleeding variable or unchanged
Cotarnine hydrochloride (stypticin)	Asphyxia	Beef-serum
Digitalis	Gelatin	Coagulen (Ciba)
Epinephrin	Kephalin (Howell)	Emetine (subcutaneously)
Ergot	Nitrite	Horse-serum
Hydrastis	Physiologic salt-solution	Pituitary extract
Thromboplastin		Thromboplastin (intramuscularly)
Tyramin		

HOW TO TREAT A COLD SIMPLY AND EFFECTIVELY

In a recent number of *The Medical Record,* Dr. Beverly Robinson offers a method of treating cold which seems to be very effective. It is as follows:

As soon as the first premonitory symptoms of a cold manifest themselves, such as sneezing, chilliness, cough, give from 5 to 10 grains of salicylate of ammonia and one-half a grain of caffeine every two hours, for four to six doses, as an adult dose, in capsules or konseals. To a child, give appropriate dose in solution, with a little syrup of tolu and peppermint water. In many instances, the cold will be aborted or abridged in length and severity. The cold may signify little but passing discomfort, or it may mean the beginning of grip, bronchitis, or pneumonia. In any event, the salicylate and caffeine are very useful, and sometimes ward off or greatly ameliorate impending trouble .

If there is fever in the beginning, or within a few hours, add 1-2 to 1 grain of phenacetin to every dose of salicylate, for an adult. At bedtime, stop the salicylate and caffeine and take 1-2 teaspoonful of aromatic spirit of ammonia and 1-2 teaspoonful of sweet spirit of niter in 2 tablespoonfuls of water. If the nose is stopped up, or running, with or without sneezing, use a little 1-percent carbolized vaseline or a menthol salve.

The comfort and well-being of a patient, when distressed with nasal obstruction, frequent cough, fever, and general malaise, is much promoted by a hot mustard-footbath, later drying the feet thoroughly and putting on a long pair of woolen stockings, such as golf players wear, and then to bed, with much covering, at first, to promote perspiration. Of course, if there is constipation, a laxative pill after breakfast or a seidlitz powder, before, is indicated and desirable.

Whenever the cough persists, with expectoration, stop the use of the salicylate and caffeine and give syrup of hypophosphite of ammonium, a teaspoonful every two hours, just as it is, and wear the perforated zinc inhaler, making use with it of equal parts of beechwood creosote, spirit of chloroform, and alcohol. At first, the inhaler should be worn a few minutes at a time. Later, it may be worn an hour or more at one time, and repeated several times in twenty-four hours.

Painting the chest with compound tincture of iodine, or rubbing it with equal

parts of spirit of turpentine and compound soap-liniment, is useful, and either one may be employed, according to the convenience or choice of the patient. If there is notably localized pain in the chest, the use of the electric pad often is most comforting especially at bedtime.

If there is marked fever, with cough, and pain in the chest, bed should be insisted upon, and warm inhalations of creosote vapors from a croup kettle should be begun and kept up more or less continuously until the symptoms have greatly improved. If the creosote odor is objectionable, it may be modified by the addition of compound tincture of benzoin, or one of the oils of pine, like oleum pini sylvestris, or oleum pini pumilio.

Personally, we probably would wish to make a few changes in the remedies employed; however, none of the changes would be essential. The important fact is, that a positive and energetic treatment of "cold" is outlined so clearly by a prominent clinician who evidently is a therapeutic optimist. The medical world is slowly but surely giving up its therapeutic nihilism—to the advantage of the sick, we are certain.

TELEPHONE DEAFNESS

In a recent communication to *The Buffalo Medical Journal*, Doctor Cott called attention to several cases in which persons when they put the telephone receiver to the ear suddenly heard a loud, high pitched sound and then could hear nothing more, the deafness persisting for a considerable length of time.

His explanation of the cause of this deafness is, that any interference to the line while one is listening may jar the auditory nerve suddenly and induce a high pitched sound, followed by prolonged tinnitus with immediate deafness, either partial or total, the symptoms ameliorating after some weeks.

This accident can be avoided, because it occurs only when the listener holds the receiver in such contact with the ear that no external sound can enter, a common way to hold the receiver when there is much noise around. If the user of the telephone applies the receiver in such a way that a space is left for free circulation of air between it and the ears, shock can not be transmitted to the nerve, no matter how much disturbance there may be on the line.

IPECACUANHA IN THE TREATMENT OF AURICULAR DISEASES

In the treatment of cardiac affections, ipecacuanha has been used as an adjunct by many physicians, the purpose being, to push the drug to emetic effect in order to terminate attacks of palpitation. The belief has been entertained that the effect upon the auricular functional disorders was purely reflex.

In disorders of the auricle, which the author believes to be, very often, of toxic origin, Dr. Louis Faugeres Bishop (*Med. Rec.* Aug 31.) declares that ipecacuanha seems to be a valuable adjunct to digitalis. In seriously ill people who are suffering from fibrillation of the auricle, there may be not much time to spare and a remedy must be pushed to a degree that is certainly bold. In desperate circumstances, Doctor Bishop often has felt obliged to administer digitalis to the point of producing vomiting. In one case, however, where he feared to await this effect, because of the urgency of the case, he combined ipecacuanha with the digitalis preparation, and found that the condition responded more than usually well to the treatment; so, he was led to repeat the combination on other occasions.

In consequence of these experiences, Doctor Bishop combines ipecacuanha with digitalis in these conditions, which he believes to be due to toxic influences acting upon the auricles; prescribing a tablet containing 1-2 grain of powdered digitalis and 1-8 grain of ipecacuanha. While the nauseating effect has not been hastened by this combination, the author believes that the action of the digitalis has been improved.

We are impressed with the possibilities of this combination suggested by Doctor Bishop; but, suggest that emetine hydrochloride probably would produce a typical ipecac action more promptly than does the crude drug; especially since it may be administered hypodermically, whereby the effect would be hastened. At any rate, in cardiac crises of the kind referred to here, the attempt to secure prompt relief, by administering digitalis, or, perhaps, digipoten, in combination with emetine hydrochloride may well be made. We should be glad to learn of observations made under such treatment.

Miscellaneous Articles

Studies on Food Economics

Peas and Beans

THE seeds of leguminous plants in general contain a large percentage of a substance, very closely allied to wheat-gluten and to casein, to which the name legumin has been given.

A chemically obtained legumin in solution in water is coagulated when heated to nearly the boiling-point of water, in which respect it resembles albumin (egg-white); it also is coagulated by rennet, and in its relation to acids and alkalis it resembles casein, the curd of milk, compared with which it is equally nutritious as a tissue-builder. Seeing that the world is gradually approaching a grain- and meat-famine, it is absolutely necessary to find suitable substitute tissue-builders, among which we have dried peas and beans. However, the latter have not been used thus, so far, for the reason that there is a lack of understanding of their nature and qualities as food, also a want of a proper knowledge of how to prepare such food in the most palatable form.

Since we, as a nation, have entered into this world-war, the price of peas and beans has increased above the past normal, our government fully recognizing their food value for our army and navy and buying up large amounts of these legumes. However, if the mass of our population had a better knowledge of how to prepare peas and beans by a proper mode of cooking them, a greater wheat conservation might be affected. We will, therefore, devote the greater portion of this article to the consideration of the cooking of peas and beans.

Practically regarded and treated, casein and legumin may be considered as being the same; the one being obtained from the vegetable-kingdom—which is not as likely to fail as the other one from the animal-kingdom.

The legumin from vegetables, as ordinarily prepared by cooking, is the most difficult of digestion of its albuminoid contents; while the casein from the animal enjoys the same distinction. They much resemble each other in flavors, and John Chinaman makes actual cheese from peas and beans.

There is an old couplet—so old that the date of its birth can not be deduced from the mist of past ages—which runs as follows:

> Peas-pudding hot, peas-pudding cold,
> Peas-pudding in the pot, nine days old.

As this couplet expresses a culinary and chemical principle of considerable importance we use it is an introduction to what follows.

In a previous article, we stated that the *proper* cooking-temperature is 180° F., and, therefore, not as high as that of boiling water, or 212° F. The high temperature coagulates the albumin and fibrous tissue, while, if prolonged, the lower temperature slowly renders them soluble, and thus more digestible. Dried peas and beans should be soaked in water to which has been added a small quantity of potash—preferably the carbonate.

Caustic wood-ash will cause these legumes to part with their skin more readily than will the neutral bicarbonate of potassium. The peas and beans now will part with their outer coating, or skin, which is perfectly indigestible, while it readily ferments, and thus gives rise to gases.

Now, then, if after thus soaking these peas, or beans, we cook them for many hours at a low temperature, say 180° F. (a fireless cooker or a double boiler will best serve the purpose), we shall obtain the best results.

I pause here to quote from Prof. William's "Chemistry of Cooking", as follows: "My father and his brothers were martyrs to rheumatic gout and died early in consequence. I had a premonitory at-

tack of gout at the age of twenty-five and other warning symptoms at other times, but, have kept the enemy at bay during forty years by simply understanding that this lithic acid (stony acid) combines with potash, forming thus a soluble salt, which is safely excreted."

We, ourselves, have failed of many a fee, owing to our colored sisters feeding their children, when ailing, on the pot-liquor of vegetables, which their white sisters either throw away or give as feed to the pigs. As a matter of fact, this pot-liquor contains much of mineral (especially potassium) salts dissolved out, and, in our practice, we have found that the potassium salts, as found in our fruits and vegetables, are better medicinally than in their uncombined chemical state outside such tissues.

It is quite possible to take in an excess of chemical potassium, since its depressing, "lowering" action results in what may be called alkaliosis. There is no such danger from vegetable feedings. The principal vegetable potassium salts are the citrate, the tartrate, and the malate, besides a few other, less important, organic salts. The lactic-acid salt is found in milk, and it favors digestion. Peas and beans, when cooked, should be stored in a closed Mason jar for several days before being used as food. The change effected is the same as that in ensilage, namely, a softening of fibers and a sweetening, the latter owing to the formation of sugar. The same applies to cooked oatmeal. As an example and result of this treatment of food, we have the well-known sauerkraut. It is also seen in the ripening of our Le Conte pears. We remove ours from our tree while they are hard, acid, and juiceless. By being kept in the dark some time, they become soft, juicy, sweet, and of delicious flavor,

As a substitute for wheat and meat, the legumens are more than equal to them in healthful and nutritive value.

By the reading of the Holy Book, we find that Daniel surpassed those set apart for special feeding in order to be fit servants of the King, and who, even though being fed on what was considered the choicest of foods, did not equal Daniel in looks or robustness of health, for, he was fed simply on leguminous food and, possibly, fruit—the food of our first parents. The last pound of grain, it is said, will win this war; hence, let us see to it that we conserve it as much as possible by the substitution of the legumens as food.

The whole world is looking to us for grain, while we are more than wasting it in the production of alcoholic beverages.

Ethyl-alcohol can be made from any of the starches or pithy material, even from wood waste. That made from wood waste is produced as follows: The wood first is reduced to a pulp. Next, this is treated with sulphuric acid and thus reduced to a kind of sugar. The sugar then is fermented, when carbon dioxide and alcohol are formed.

Dehydration

For the material for the following article, we are largely indebted to Prof. John R. Murlin, of the food division of the Surgeon-General's office, Washington, D. C.

The object of this division in these studies, was, to apply the science of nutrition to the problems of feeding our army. These problems, in their application to civil life, are of still greater importance. For, from civil life, we obtain the raw material of which our army is composed, and on which the greatest efficience of our industrial system is based.

To begin with, we find in our army-feeding experience that meat represents the most expensive article of diet. However, for the rapid repair of muscle, meat is the most economic of all the nutritive food-substances we have.

Muscular work does not wear and break down the muscular system. This is a demonstrated fact. On the contrary, it is an upbuilder. This is well known to trainers of athletes. A man who has not been accustomed to physical work, when he begins actual muscular exercise, instead of breaking down muscle, will build up muscle.

It is also demonstrated that the breakdown of nitrogenous material in the body does not increase in muscular work over the amount broken down in complete muscular rest. Muscular work is done at the expense of potential energy in the form of carbohydrate (sugar) and the hydrocarbons (fats). Of these, sugar takes precedence, as being the most economical. Our average soldier craves sweets without knowing its peculiar use as a quick energizer by its oxydation.

For an examination of one camp, it was found that the soldier, in camp, bought, each day, in the neighborhood of 500 ca-

lories of energy in the form of sweets. However, for quick delivery of superenergy, such as getting "over the top," a high-protein diet was found necessary. In view of what is here said, would it not be as well—except on extra occasions, such as "getting over the top"—to reduce the soldier's ordinary meat diet and increase his carbohydrate (sugar) allowance?

All that is written above should instruct our brethren as to the nutrition of the mass of our population. Meat being the dearest of all our foods at the present time and the amount of our future supply being very precarious, would it not be as well to reduce the average amount used by individuals in civil life? Now, we find meat is about 70 percent water, while milk is 88 percent, and eggs about the same. With our improved technic, why can not we dehydrate these most important foods, likewise most of our vegetables and fruits? Meat spoilage is almost entirely due to imperfect refrigeration. Experiments have been made at the Harriman Research Laboratory, at New York, in dehydration at a low temperature and a high vacuum. Such dehydrated food-material would be far less costly to transport and thus result in reduced cost of living, requiring less wage for labor and, consequently, a great reduction in the price of commodities. Milk, by a process of dehydration, could be sold, per quart of liquid-equivalent, for 9 cents. Lean meat now selling at retail at 40 cents per pound, its equivalent could be sold in powder form for as low as 20 cents.

The British army allows 1 pound of meat each day, the French army allows 3-4 pound, and the Italian army allows only 1-2 pound, while our American army is provided with 1 and 1-4 pounds, although the actual consumption in camp at the present time does not exceed 3-4 pound.

Just here we will remind our readers of what is well known, namely: muscular work does not result from a destruction of the protein elements of our food, the oxidation of the carbonaceous compounds, sugars and oils, furnishing the force that is transformed by the muscular system into motor power. When employed exclusively as food for any length of time, the albuminous substances are incapable of supporting life.

Alcohol, when introduced into the system in small quantities, undergoes oxidation and contributes to the production of force, and is, thus far, only a food. In small quantities, it excites the heart and causes increased secretion of the gastric glands, hence, improves digestion and stimulates the activities of the nervous centers. When taken as a beverage, its use retards the metamorphosis of the tissues; the elimination of urea and carbonic acid is lessened, the temperature is lowered, the muscular power is impaired, and the resistance to depressing external influence is diminished. When taken throughout a long period of time, alcohol impairs digestion, produces gastric catarrh, and disorders the secreting powers of the hepatic cells. It also diminishes the muscular power, besides destroying the structure and composition of the cells of the brain and spinal cord. The connective tissue of the body increases in amount and, subsequently contracting, gives rise to sclerosis.

From numerous investigations concerning the percentage composition of different foodstuffs, and according to which their water content ranges from 91 in turnips to 75 in potatoes and 74 in eggs, it may plainly be perceived how much we might save in weight if the water could be eliminated from these foods by dehydration. The transportation of food-products would be much relieved of its present burdens. [Certain tables which the author cites are not reproduced in this place, for the reason that they may be found in most textbooks on dietetic.—ED.]

Major Samuel C. Prescott, of the food division, has prepared an exhaustive report on the subject of dehydration covering all phases of the subject, from the saving in the space to the chemical composition and microbiology of the product. Immediately after this report was submitted to the quartermaster's department, that section of the army began placing orders for dehydrated vegetables, such as potatoes, onions, and carrots, for the use of General Pershing's army.

As yet, the tonnage contracted for is not large, but, in all probability in the near future dehydrated vegetables will become a staple article in our army rations, as they have already become in the ration of the British army. Thousands of tons of dehydrated vegetables are being prepared in Canada, some also in the United States, for the British army.

By simply soaking in water and boiling in the same water—thus saving the mineral

elements so essential to health—these vegetables are brought back to the condition of fresh vegetables so perfectly that very often they can not be distinguished from the fresh vegetables themselves.

It is fairly safe to predict that before long methods will be found for the dehydration of meat as have already been found for that of milk. Spoiling of meat is almost entirely due to imperfect refrigeration, but, if the water is eliminated, meat can not spoil. Furthermore, bacteria are semiaquatic and can not live and thrive in the absence of moisture. The American Indians, in former times, dried their meat in the sun over dense smoke, and thus prepared it kept good for a long time. Dried meat will, in the future, largely take the place of our beef extracts for making nourishing soups for invalids. Vast quantities of vegetables are spoiling in the fields of Florida, when they might be conserved by the process of dehydration and thus benefit the rest of the country.

A. T. CUZNFR.

Gilmore, Fla.

THANKSGIVING CONTRIBUTIONS TO MEDICAL OFFICERS IN CAMP

We are greatly pleased to acknowledge receipt of package containing tobacco and gum which you recently sent us. We wish to express our appreciation of your kind thought in sending these things, which will be distributed among the boys at Thanksgiving dinner.

IRA E. GATES,
Captain Sanitary Corps, Hospital Adjutant.
Fort Oglethorpe, Ga.

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The package containing the cigars, cigarettes and tobacco, of which you spoke in your favor of November 13, came to hand this morning. I desire to express to you my appreciation of your thoughtfulness for the physicians in this camp, and can assure you that they, as well as I, will appreciate this offering, especially as it comes from contributions from such a scattered clientele as the readers of your journals.

W. N. BISPHAM,
Colonel, M. C., U. S. A., Commandant.
Fort Oglethorpe, Ga.

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[These letters were received in response to an express package that we had sent to Fort Oglethorpe for the benefit of the medical officers in the training camp there. The package contained tobacco, chewing gum, cigarettes and cigars, and we hoped in this manner to contribute to the Thanksgiving cheer of our colleagues at present in training.—ED.]

FIGHTING INFLUENZA

Early in the course of the epidemic of influenza in Chicago, two of our most important executives were attacked by the disease. Dr. J. F. Biehn, director of our biologic department, contracted it at Great Lakes Naval Training Station Hospital, where he went to familiarize himself with the disease and secure cultures of the organisms. Doctor Biehn came down with the disease late in September. He and his two children were very sick, but, all recovered. Mr. F. M. Young, director of our chemical manufacturing department, contracted the disease about the same time as Doctor Biehn. He was very ill, but recovered. His wife also contracted the disease, and died after a few days' illness of complicating pneumonia.

Within a few days, three other cases appeared among our employes. They received careful medical attention at the hands of Dr. H. J. Achard, of our staff, and all recovered without complications.

At this time, prophylactic measures were instituted, consisting mainly in the use of sprays of dichloramine-T-chlorcosane solution, and the home use of chlorazene. Every employe was invited to visit the plant dispensary at least twice daily, where they were carefully sprayed with the dichloramine-T-chlorcosane solution. As a consequence, we believe, of this treatment, only one further case had developed among the employes of our plant, at this writing, in the course of two or three weeks. This employe, a young lady, had received the sprays, which did not apparently prevent the disease in her case, but, it ran a very mild course.

In the laboratory at Ravenswood, between 200 and 300 persons are employed. During the period referred to, there have been thousands of cases of the disease in this vicinity, and a very large number of deaths. In a number of instances the disease was (and still is) present in the homes of persons working in our plant.

To supplement the preceding, we are now giving prophylactic vaccination with the

Influenza Pneumonia Combined bacterin (Rosenow). Only about half of the help thus far has received these injections, and it is our purpose to give the three shots at five to seven day intervals, as recommended by Doctor Rosenow.

Every effort is being made by our medical staff to keep the employes in good health. Minor ailments are looked after carefully, and if any worker is not well, he or she is sent home. In a number of instances, calcium sulphide has been given to saturation, and this is generally recommended, especially for small children. Iodized calcium has been used very freely throughout the epidemic, and apparently with the best results.

While it is not safe to crow until we are entirely out of the woods, we are well satisfied with the results thus far obtained. Nearby manufacturing establishments are thoroughly "shot to pieces", but, we have been able to keep our working force virtually intact, and we hope to continue so.

THE ABBOTT LABORATORIES.

Chicago, Ill.

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[We are informed that, since the foregoing report was written, the immunization of the employes of the Abbott Laboratories has been completed, as far as it was submitted to. Since the recent reports foreshadowing a new epidemic of influenza, renewed efforts are to be made to protect the working force of this institution fully against the consequences of infection.—ED.]

PNEUMONIA AGAIN

After reading the article in your May issue, (p. 373), entitled "Can treatment influence the death rate of lobar pneumonia", where reference is made to the assertion emanating from the Massachusetts General Hospital, that we have not discovered anything during the past 95 years that will help, I just got "fussy all over", and now I am going to say something.

I have been practicing medicine for the past seven or eight years, and during that time I have treated many cases of lobar pneumonia. During the past winter, when we had a regular deluge of it, I had some 20 cases, and these patients now are well and stand living monuments to the efficacy of drugs when properly used.

Doctor Waugh was teaching when I attended college, and, after hearing him lecture and knowing him as I did, I felt some sense of security when I entered the practice of medicine—and I have invariably found that, when I did not get results from my drugs, the fault lay in me, and not in the remedies prescribed.

When I see a doctor that says, "There is nothing to medicine", I know he is a failure; for, he condemns medicine because he knows nothing about it.

When I was in the army service, I learned that the treatment given the pneumonia-patients followed the "old-line" expectant plan, and, so far as I could discover most of them died. Of course, in the army, the doctor uses what drugs are mentioned in the military medical manual, and not what he might have used in private practice. After leaving the army, I located here, where my predecessor had been for seventeen years and had the people believing that pneumonia is incurable. As a matter of fact, he lost every case he had attended—had lost 7 the winter before I came. So, when I was called to my first case of pneumonia and informed the parents of my diagnosis, they were ready for a funeral and did not believe me when I told them that, with good nursing and treatment, their sick child would recover. At present, I sometimes am called a distance of 20 miles to take charge of a pneumonia-victim.

To illustrate, my first case was one of the worst that I ever have had to contend with and I did not see the patient until the family doctor gave him up and told them the boy was going to die. However, the doctor suggested that they try me, because his own wife was sick and he could not make as many calls as he would like to.

I saw the boy at 5 in the morning on February 23, last, and his condition was as follows: Respiration 58, short and jerky; pulse somewhere between 180 and 200, so fast I could not get it; temperature 104.5 degrees F.; complete consolidation of right lung, with an extensive involvment of the lower lobe of the left. The boy was 11 years old. His history was negative up to this present attack. He was in active delirium, murmuring and asking for help. His coughing was almost constant, with much pain and discomfort. He was emaciated and somewhat cyanotic. He had

been under the other doctor's care for eleven days. After a careful examination, I told the parents that I did not believe the boy could get well, but, that, as long as there was life, we must fight.

Before describing my treatment I want to state that the boy had up to then been given a mixture consisting of atropine sulphate, morphine sulphate, strychnine sulphate, alcohol, and water, given in tablespoonful doses every three hours, and that was all the treatment he was getting.

I immediately applied a dressing of libradol to his chest, about the thickness of a knife-blade, anteriorly and posteriorly, with gauze and thick layers of cotton. Hypodermically, I gave 4 mils (Cc.) of pneumonia-phylacogen. Internally, I gave echinacea (Lloyd's), 1 dram every three hours, and then a mixture, every two hours, consisting of asclepias, 4 drams; bryonia, 1 dram; aconite, 30 minims; water, enough to make 4 ounces. Also, calomel and castor-oil, to clean out; then high enemata, to get what was left. I also put him on physiological salt solution by means of proctoclysis (Murphy's method). Then I called a nurse. I gave pneumonia-phylacogen every six hours, kept up the proctocylsis of salt solution, also resorted to feeding per rectum every six hours.

At about 9 o'clock, same morning, we had a nice reaction from the serum and other medicine; the temperature began to recede and by night it was down to 102.5 degrees, the respirations were about 40, to the minute, and the pulse was down to around 140. The cough was less and without pain, the boy resting and sleeping. I changed the libradol every twelve hours for three days and then applied and continued pneumophthysine. I kept up the echinacea and serum throughout the treatment, also the fever-mixture previously mentioned. By this combined treatment of medicine, serum, proctocylsis, and feeding, we were able to keep the boy holding his own, with a temperature fluctuating between 103 and 100 degrees—which indicated condition of the lung.

In three days after beginning treatment, the left lung was entirely clear, so that he had one good side for taking in oxygen; still, his right lung was as solid as a rock. No sign of resolution in the right side appeared for about sixteen days, when I could detect the presence of fluid. Consequently, I resected a rib, under chloroform anesthesia, (I never use ether in pneumonia) and obtained about 5 pints of pus, blood, and fluid. To combat the mixed infection, phylacogen, also echinacea and physiological salt solution and rectal feeding were resorted to.

By March 23, the boy was well enough for me to dismiss the case, whereupon I left for 6-weeks' postgraduate-work in Chicago. Upon my return, I called at the family's home and the boy met me at the gate, somewhat emaciated, to be sure, but, with color in his cheeks. His side had almost quit draining and I removed the tube. At this writing, June 25, he is entirely well, the side wound has closed nicely, he weighs more than ever, and spends his time hunting and fishing.

Some skeptic now will rise and question: "How do I know which of this conglomeration of treatment effected the boy's recovery?" My reply frankly is: "I do not know and I am not wasting my time trying to find out. I do know that everthing I gave him was indicated: echinacea for the depraved condition of his blood, the threatened pyemia; the asclepias, bryonia, and aconite mixture, to reduce the temperature, slow the pulse, tone the heart, and relieve the stitch-like pain in the side; the libradol also is pain-relieving and greatly soothes these sufferers; the pneumonia-phylacogen, in my mind, increases the phagocytic action of the white blood-cells and in a large measure assists nature in overcoming the great toxemia. So, neither do we know the whys and wherefores of the action of echinacea, yet, we do know that we get wonderful results in blood-poison cases. Let me add that I believe that the protein content of many of our plant-drugs has much to do with their efficacy.

While doing special work in a hospital in Chicago last spring, I saw a girl of 12 years of age brought into the operating-room and a member of one of the leading Chicago medical societies resect a rib under ether-anesthesia. I said, "Doctor, why ether?" He replied that her heart was weak. I asked if the irritating properties of the ether upon her lungs at this stage were not more harmful. He did not know for sure. Anyway, the little patient died

in a few hours, and I believe the ether contributed to her death.

I wish to report a case that was handled in direct contrast to my way of treating, because I was called (by 'phone) first to this case, but, was too tired to go, requesting the people to let me sleep two or three hours, when I should come; in the meantime they could send in and get something for the pain in his chest. However, they would not wait and telephoned for one of our nearest doctors. And here is his treatment:

He told them to place the patient's chest in ice—of which there was plenty last January. He called a few hours later, took the patient to the hospital, resected three ribs in his left side. Now, mind you, this patient had been sick with acute lobar pneumonia only six hours, yet, the only thing this doctor could think of was, to pack this boy's chest in ice and resect three ribs. Well, the poor boy died—what else *could* he do? I asked why they drained his side so early, and the Doctor told me that his lung had consolidated and that the most modern treatment was, to open up early and drain before the patient had a chance to absorb pus. Most modern—h . . 1! I got mad all over when I saw such ignorance practiced.

Here is another bad case of pneumonia that I may mention, that of a baby 9 months old. When I saw this child it was unconscious, with a pulse of 170, a temperature of 104.5 degrees F., and a respiration of between 50 or 60. This case was handled very much like the one above reported. The child remained unconscious for four days. Owing to its age and condition, I was unable to give any medicine by mouth, so, gave hypodermics exclusively, these consisting of echinacea and pneumonia-phylacogen. Pneumo-phthysine was applied to the child's chest, and this assisted materially in reducing the temperature. The nurse was dismissed on the ninth day, the child being cured.

I never have had a case of pneumonia in which it was necessary to drain the side, providing the treatment was started early. The only drainage-cases are those that are seen by me as a last chance and others in which home treatment was tried before calling the physician. I had the audacity one time to report at a medical meeting my treatment and its result, and the secretary of the society claimed that the reason why I had no deaths was, because I had no pneumonia to treat. Well, my cases are verified by laboratory reports, just the same as these "drug-knockers" verify theirs at autopsy.

J. R. B.

Kansas.

NO MORE PHYSICIANS TO BE COMMISSIONED IN THE MEDICAL CORPS

We have just been informed, almost on the point of going to press, that at ten o'clock on the morning of November 11, the War Department discontinued the commissioning of physicians in the Medical Corps.

This condition, in all probability, is permanent and no further consideration will be given applicants for a commission in the Medical Corps until further notice.

RESERVE OF THE PUBLIC-HEALTH SERVICE

From *Public Health Reports* for Nov. 1, we excerpt the following:

For some time, it has been felt that the United States Public-Health Service should have at its disposal a permanent reserve, upon which it could draw in time of emergency such as that presented by the present epidemic of influenza. Moreover, it seemed desirable to provide for the commissioning, as reserve officers in the Public Health Service, of men whose work through experience gained in other fields would be of great service to the Federal health authorities.

With the numerous demands made on the Public Health Service during the pres-

ent epidemic, attention was again called to a joint resolution (S. J. Res. 63) pending in Congress since June, 1917. In the form reproduced below, this resolution was agreed to by the House of Representatives on October 18 and by the Senate on October 21. It was formally approved by the President on October 27, 1918, and will supply the needs of the service.

By far the larger part of the reserve to be organized under this act will be on active duty only during times of national emergency, though it will probably be necessary to establish periodic terms of training, so as to better fit the officers for such service. With the passing of the emergency these men will automatically go on the inactive list; always, however, subject to call to active duty by the Surgeon General. Detailed plans for the organization, training, and assignment of the reserve officers are now under consideration. The text of the resolution is as follows:

"Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, that, for the purpose of securing a reserve for duty in the Public Health Service in time of national emergency, there shall be organized, under the direction of the Secretary of the Treasury, under such rules and regulations as the President shall prescribe, a reserve of the Public Health Service. The President alone shall be authorized to appoint and commission as officers in the said reserve such citizens as, upon examination prescribed by the President, shall be found physically, mentally, and morally qualified to hold such commissions, and said commissions shall be in force for a period of five years, unless sooner terminated in the discretion of the President; but, commission in said reserve shall not exempt the holder from military or naval service:

"Provided, that the officers commissioned under this act, none of whom shall have rank above that of Assistant Surgeon-General, shall be distributed in the several grades in the same proportion as now obtains among the commissioned medical officers of the United States Public Health Service, and shall at all times be subjected to call to active duty by the Surgeon-General; and when on such active duty shall receive the same pay and allowances as are now provided by law and regulation for the commissioned medical officers in the said regular commissioned Medical Corps. (Approved Oct. 27, 1918.)"

OUR SERVICE FLAG

By Frank A. Mitchell

(In *Chicago Commerce*, August 1, 1918.)

I

Our boys have gone, and we saw them go
With a laugh and a cheery smile;
And we sped them away, so they would not know
Of the tears shed after awhile.
But, the pain of parting is easier, far,
Because of the pride and joy
That the flag of service holds a star,
And the service of right a boy.

II

It's a symbol of love, and waves today
From the East to the Golden West,
The flag of our boys that have gone away
To welcome the warrier's test.
Theirs is the glory of love of right,
Ours of the love of them—
Together we'll join in the stubborn fight
And the victor's bright diadem.

III

To the fields of Flanders and old Lorraine,
They have gone with courage true,
And, until they return to their own again,
There's work for us all to do.
The honor of fighting a righteous cause
Is the guerdon they'll win out there,
The duty of serving without applause
Is the burden for us to share.

DOCTOR WAUGH AS A THERAPEUTIST

That portion of our medical fraternity who eschew surgery entirely and confine their practice to medicine alone may be divided into doctors and physicians.

It is much to be lamented that many medical men have so confined their efforts to the field of pathology and diagnosis as almost entirely to have ignored the study of therapeutics. I class the latter as the doctor in distinction from the man who adds to these acquirements a thorough knowledge of therapeutics and whom I class as the physician. The former knows the patient's disease and condition, is ignorant, though, of any means of affording relief, and, in fact, from a practical point of view, is of no more value to the patient than is the good, old auntie living in the back streets.

The physician knows and he believes in the wonderful virtues of drugs and is of life-saving value to his patient. The pro-

fession has entirely too many "higher critics," who in a high degree resemble the "higher critic" in theology—now, fortunately, becoming obsolete. These men, with a sweep of the arm, would brush aside all the tenets of theology and all the well-established knowledge of therapeutics. With an air of assumed intellectual and professional superiority, they presume to say that the great men of our profession of all ages were not able to arrive at correct conclusions and that it remained for their own colossal intellectual development really to arrive at the correct conclusion. The truth is, it is all a cheap and easy assumption of superiority. Such men, without exception, are ignorant of therapeutics, and not, as they would have you believe, such masters of the subject as to have discovered its uselessness, when, in fact, they are in an alarming degree ignorant regarding it. It is time that the profession express its impatience and disgust with these men, who block the wheels of medical progress and who are simply a deadweight to those who are honest workers.

To many, all this may appear foreign to the subject under consideration; but, to those who had an intimate acquaintance with our esteemed fellow physician Dr. William Francis Waugh, it will be known that these statements are in entire accord with the opinions of our departed colleague. It was my priviiege and pleasure to have had him, for half a lifetime, as a friend.

His birth-place was in Laurence County, Pennsylvania. His ancestors leaned toward the legal profession and for years were famous judges. However, our friend forsook the law, to become a most useful and widely known teacher and practitioner of medicine.

To an eminent degree, he possessed the qualities of observation and of judgment without which no man is able to detect the symptoms of his patient and from these symptoms to arrive at a correct conclusion as to the diagnosis. To these qualities, were added persistent industry and an inherent love of his chosen profession. With these qualities of mind, together with kindness of heart and a jovial and genial social affability far above the average, it was inevitable that he should arrive at the enviable position which for years he occupied.

As a therapeutist, I know no one that was his superior. His ability to apply medicines to the relief of the sick was scarcely equaled. He had a confidence in medicine equaled only by his knowlelge of its efficacy, and he carried this confidence into his writings with such a ring of assurance as to convince his readers of his accuracy. For years, he was authority to the therapeutic students of medicine, and, through his books, will continue to be so. He was a prince among men and among doctors.

It is with sorrow and regret that we bid goodby and treasure his memory as one of the assets of the years to come.

Let me close by quoting the little verse written by that famous emancipator, John Brown, and which is chisled, by his son, upon the modest gravestone:

Through all the dreary night of death,
In peaceful slumber may you rest,
And when eternal day shall dawn
And shades and death are past and gone,
Oh! may you then, in glad surprise,
In God's own image wake and rise."

V. E. LAWRENCE.

Ottawa, Kans.

REGARDING THE LUMINAL-TREATMENT OF MORPHINE-ADDICTION

In the August number of CLINICAL MEDICINE (page 619) Dr. George D. Swaine delivers himself of a wholehearted arraignment of all who lay any claim for luminal as a remedy in morphine-addiction. Since last March, I have visited the Dr. H. E. Goetz's Sanitarium at Knoxville, Tenn., and have had personal experience and observation of the effect of his remedy for the diseased condition of the mind, at least, of a morphine-addict. It is needless for me to say, I hope that I am cured—yes, cured. I am a man in my fifty-ninth year; if I am not cured there is no cure. Have had no morphine in two months (was taking 20 grains a day), am eating and sleeping regularly,—practicing again. There is morphine, heroine and codeine in my laboratory where I could get it if I wanted it. As I am one of the most enthusiastic supporters of the treatment, I am anxious that no one might be misled by Doctor Swaine's criticisms. Hence this letter.

I have gone through the mill several times, six in all; have tried all the remedies claimed to have any virtue whatever, except the Towns-Lambert treatment

which I did not have the nerve to "hit", and I thank God I did not. Hyoscine leaves the mind of the patient in a weak condition, feeble, child-like, with will-power gone. Restore the mind to a normal condition, then, one who desires to be cured will not go back to morphine.

Luminal is the only remedy that cures [the only?—Ed.]; it keeps the patient asleep quietly without delirium, for 7 or 8 days. If it is intelligently administered he can be awakened regularly and given nourishment, but, he goes right back to sleep again, in quiet, peaceful repose. When he comes out from under its influence, the nervousness is gone; he feels as though having been asleep only for a few hours: There is no craving for his old drug. The patient is weak, of course, but soon goes to eating and sleeping and regains his strength rapidly and is well. Is this not a remedy?

Doctor Swaine claims to have accomplished many cures, making it appear as a very easy or simple matter to effect them. This is by no means in accordance with fact, though. Let me say right here, all honor to any honest physician who has made, and is making, diligent efforts to cure this disease, or condition, as you please to call it.

Doctor Swaine has cured nearly three thousand cases in the last 20 years. That means upon an average of about 70 cures to each state in the union. I have been pretty closely identified with the different medical associations for the last 10 or 15 years, yet, never before the August number of CLINICAL MEDICINE did I hear the name of Dr. George D. Swaine or of his sanitarium. But, that makes no difference, Doctor Swaine, if you are doing such good work, keep right at it all the time.

But, what does he do it with? While I agree with him in some of his points, especially in regard to what class of patients will be and will not be cured, it is not at all evident what is his remedy. Doctor Goetz comes squarely to the front and indicates the one upon which he relies. Let's see if we can find Doctor Swaine's remedy. He tells us to prove it. "A supply of bilein and podophyllin tablets, magnesium sulphate, seidlitz powders, saline laxative and Hinkle's pills. Keep on hand duboisine, eserine, strychnine, sparteine, strophanthin, glonoin, lobeline, emetine hydrochloride, pilocarpine, sulphonaphtolene and, last and least, veronal." "Supplied with this lot of ammunition you are prepared for the conquest and the cure of your patient."

Very simple. Yet, I would hate to be the patient if the morphine is withdrawn and these remedies are depended on to give relief. The first named are all right to keep the bowels open. But, of the last ones named, duboisine and veronal are the only ones that have any hypnotic effect whatever. Now, some of these remedies are mere adjuncts to the treatment. But, again I ask where is the remedy—the sheet anchor to control the awful, terrible nervousness following the withdrawal of the morphine?

You can take the drug away from an addict taking 60 grains a day, and reduce it down to 1 and 1-2 grains in 24 hours without the slightest inconvenience. Why? Because the 60 grains of the previous day are still having their effect and sustaining him. Wait 24 to 36 hours longer without increasing the dose, and see where your patient will be: Uncontrollable pain and nervousness are sure to follow. The gradual-withdrawal plan will not do, as all know who have experienced it.

So, we have examined this entire article and have not found the author's remedy. Study each individual patient (for, there are no two exactly alike), age, temperament, debility or feebleness considered; and, if you believe that he really wants to be cured, treat him with luminal as a base, some patients requiring more of this remedy than others. Intelligently administered, nourished and nursed correctly, by an experienced nurse, your patient soon will be off the morphine and well.

Such was my experience and observation, with a minimum amount of suffering, at Doctor Goetz's Sanitarium.

J. L. B.

———, Ga.

EXTERMINATE THE RATS

Playing the part of the Pied Piper in a National campaign for the extermination of rats and mice, the Department of Food Production and Home Economics, of the Woman's Committee, Council of National Defense, is cooperating with the plans inaugurated by the Biological Survey of the United States Department of Agriculture in its effort to combat the national

indifference on a subject that bears an intimate relation to the general field of conservation. This indifference, says the executive chairmen of the Food Production and Home Economics Department, is well illustrated by a farmer in the District of Columbia, who, although he confessed that he lost $300 worth of grain yearly because of these pests, was unwilling to spend the $250 necessary to make his precincts "rat proof."

"Rat Proofing" campaigns have been carried on successfully in certain places in Europe, notably in Denmark, and have been tried out in this country. That they are urgently needed, is manifest by the fact that $200,000,000 worth of food stuffs are destroyed yearly by rats and mice.

The campaign in the states will be under the direction of the Director of Extension of the College of Agriculture, to whom the state and local organizations of the Woman's Committee are being asked to pledge their heartiest cooperation.

NEW FACES FOR OLD

Just behind the far-flung battle-lines in France—stretching far rearward to Brittany and southward to the sunny south, American Red Cross hospitals and convalescent homes dot the French landscape. They shift daily, sometimes in an hour, as the swing of war sends the Allies forward toward the Rhine. Base hospitals in and about Paris accommodate more than 7,000 patients. Evacuation- and front-line hospitals can care for all the thousands the god of war may throw in to them. Dispensaries, diet-kitchens, and infirmaries run by the Red Cross are located all over France. It is part of the Red Cross service for humanity. Convalescent-houses are located at Biarritz, Cannes, Beycheville, Saint-Cloud, Morgat, Le Croisie, Issoudun, and Chateau-Cirrey.

But, humanitarian as all this is, there is another phase of Red-Cross work, fully as interesting and, in a way, more vital to the future. The man who loses a leg or an arm or even his sight may go about in comparative happiness and content. But, the man whose lower jaw is shot away—whose face is so disfigured that his fellow beings turn away in horror tinged with pity—that is the man for whom the Red Cross, aided by a noble women, is doing the best work of all. It is literally a case of new faces for old.

Supreme art, mechanical genius, and twenty dollars supplied by the American people and spent by the Red Cross furnishes the new face. It sounds simple—and it is, yes, its consequences are wonderful beyond words—which only those who have seen the mutilated before and after wearing these masks can understand.

To begin at the beginning, an English sculptor, Captain Derwent Wood, conceived the idea of replacing nonexisting tissue and missing parts with masks, these to resemble the victim of war as he appeared before being thus mutilated. The work was perfected by Mrs. Maynard Ladd, another sculptor, who is devoting all her time in Paris to refacing these "mutilés," as the French call them.

The method is simple also. When the mutilé has been nursed back to health and his wounds are thoroughly healed and the tissues and muscles have finished contracting, he goes to Mrs. Ladd's studio, who then takes a plaster cast of the mutilated features. Then, she takes a photograph of her subject as he appeared before mutilation. From this, she shapes a mask to fit the mutilated face, taken in replica in plaster. Then, a very thin mask of copper plated with silver is made. If eyebrows are missing, they are inserted in the mask; if a mustache adorned the original face, a mustache is added. Sometimes the eyelids have been destroyed, artificial eyes, with openings in them, for the pupils of the wearer, are made. Every conceivable mutilation of the face has thus been successfully managed.

When the mask is complete, the mutilé goes for a fitting. The mask is held in place by "fake eyeglasses," by a wig—in a manner not easily discernible. After the mask is fitted, the artist comes into action. Mrs. Ladd paints the masks the exact color of the mutilé's face. The illusion is perfect. The man, no longer a mutilé, can smoke and talk. He is a human being again—he no longer fears to walk the streets. People no longer gaze upon him in pity, scarcely disguising horror and aversion. The transformation is complete—at a cost of twenty dollars and the art and devotion of a woman!

The Red Cross has much other work to do in the service of humanity. By the end

of this year, it will have spent more than $71,000,000 in France and $20,000,000 in Italy. To continue this work for humanity —this service for all peoples in all climes— the Red Cross must have the united support of the American people. With this end in view, it will hold the second annual Christmas Roll-Call during the week of December 16 to 23, when it is hoped that last year's record of 22,000,000 adults and 8,000,000 children who appended their signatures to the nation-wide pledge to sustain the flag will be broken.

NATIONAL LICENSING OF PHYSICIANS

Agreeable to your request (October issue, page 728) for expressions of opinion from those "in civil practice as well as in the service of the Army," as touching upon the question of the legal right of physicians who serve in the Medical Reserve Corps of the U. S. Army to practice in any state without going through the formality of a state board examination, I venture my humble address for the good of all, as follows:

Any physician graduated from any acknowledged school of any American state, should be accorded the right to practice anywhere the Stars and Stripes floats!

For, as your correspondent in the October number says, "If we are good enough to care for the boys here and overseas, we ought to be competent to practice anywhere in the world." This, it seems to me, ought to be self-evident, especially as touching those who are now serving, or who have at any previous time served, their country as members of the Medical Reserve Corps. But, the "stickle", or legal hindrance, to such a reasonable and desirable arrangement seems to be a matter of jurisprudence pivoting upon that decadent doctrine of "states rights," which should be set aside to give place to the doctrine announced by one of America's greatest constitutional jurists who declared that "anything is constitutional which is for the right, in America; and no amount of sophistry or hair-splitting argument can prevail against it!"

The accredited practitioners, themselves, in this country, are, in my opinion, to blame for this state of affairs more than the people or the law-making bodies of the several states; for, they have been more jealous of building up a name and a lucrative practice for themselves, in their several communities, or states, under state laws to "protect" them, than they have to appear and be known as the "friend of humanity" everywhere.

The "sure-enough" physician is truly "a friend of man," no matter what sun shines upon him; and he will be a true patriot when his country has need of him, either in camp or on the bloody field, at home or overseas, as has often been demonstrated by thousands of the medical profession. If he is "good enough" thus to serve his country and his fellowman in times of war, both at home and abroad, there should be no geographical line of demarcation, at any time, to circumscribe or limit his sphere of practice; but, on the contrary, he should be allowed and welcomed to pursue his vocation under any sun, especially where floats the emblem of his own country. The very fact that he has passed the examinations of any one of our medical colleges and has been admitted to practice in any state of this Union, should label and entitle him as competent and worthy to practice anywhere. Otherwise we have the anomaly, the foolish paradox, of one part of a supposedly united country sitting in judgment upon and contradicting the qualified action of another part concerning a subject which interests and affects the good of all.

I speak from personal experience, since I graduated from an Ohio college in my youth and settled to practice, in my early career, in Pennsylvania, where I have since continuously remained, excepting the time I was in the service of my country, in camp, as a member of the State Militia Medical Corps, and, during the Spanish-American war, as a member of Uncle Sam's Medical Corps.

I am, therefore, a believer in, and an advocate of, the idea that anyone who has passed a college course in medicine (at any reputable school) and has been admitted to practice in any state, should be registered at governmental headquarters as eligible and competent to practice in any state or territory of the United States, especially if that one has served his country in army or navy, at any time, either in peace or war; and I believe that the medical fraternity, in all states, should move concertedly for the enactment of a federal

law to that effect. It would greatly enhance our standing and enlarge our fields of usefulness.

JAS. B. STEWART.

Bradford, Pa.

FOR A STRONGER AMERICA

Given a good healthy body, comes next in order a wholesome mind; and play conduces to both of these desirable conditions. However, play does more than develop agility, muscular control, and physical ease. Properly organized and supervised, it should have an educational value of the highest kind. Did you ever see a kitten play with a ball or with its mother's tail? There is play of an elemental sort. It yields to the kitten the joy that play must, of course, give. It also trains the muscles how to respond. However, this joyful playing does even more. It teaches the kitten its future business of life; how to catch a mouse. And, whatever unkind things may be said of the cat today, no one ever accused it of inefficiency in its trade, profession or business, whichever it may be, that of mouse-catching.

The next generation of American men are to show an improved efficiency, that is, if the plans of the Children's Bureau carry through as the Women's Committee of the Council of National Defense is endeavoring to carry them through. The weighing and measuring of babies was the first item on the year's program. Now comes the second, to teach those children how to play. "An efficient child is the beginning for an efficient citizen" would constitute a good slogan for the "patriotic week."

That program will include singing, pageants, games, but, as important as anything, will be the physical tests of efficiency as developed and presented to young Americans by the National Playground Association. These tests take their name from the fact that everyone passing them under the regulations can procure from the Playground Association a bronze medal bearing in relief the figure of a hurdler, which says to all beholders, "I have passed the standard test." During the recreation drive, certificates will be issued to all successful contestants. These either may take the place of badges or entitle the holder to purchase a badge, if he prefers.

This is a standard group of tests which every efficient boy and girl in American is supposed to pass. It is the work of a committee of experts who wanted something that would help children to physical efficiency, through play and the instinct to succeed. The "events" are not new. Doubtless, there hardly is a live, alert boy that has not tried them. But, it is desired now to mark these live, alert boys by some insigne of honor that may urge the more sluggish to emulation. To be able to chin himself four times, jump five feet nine inches in a standing broad jump, run sixty yards in eight and three-fifths seconds; this brings to every boy the right to wear the beautiful bronze medal issued by the National Playground Association

Girls must be able to run a potato-race in forty-two seconds or an all-up Indian club-race in thirty seconds, throw a ball into its goal, from fifteen feet away, twice out of six trials, and walk twenty-four feet, balancing themselves, with a book laid upon their heads, on the narrow edge of a sized two-by-four scantling, before they are entitled to the first medal.

After the first medals have been won, ambitious young people may go on practicing "stunts" that will enable them to win the second and third medal. Of course, the tests are increasingly difficult. For instance, to win the third, the boy candidate must be able to run two hundred and twenty yards in twenty-eight seconds, and girl candidates must throw a basket-ball from a distance of forty-two feet.

To raise the standard of physical efficiency among the boys and girls of America, means, to give them greater freedom, beauty, and power. This is one object of the badge-test. As our young people are today, so will America be tomorrow. Consequently, the ultimate object is for a stronger America.

A CRANIOPAGUS MONSTROSITY

On June 23, I was called to see Mrs. R. I found her with a temperature of 105 degrees. She told me that she was within eight days of her confinement, according

to her count. The next day, her temperature was 103 degrees at 4 p. m. and everything pointed to typhoid fever. Her tongue was red, she was very nervous, her complexion was dark and the face pinched. I put her on an emulsion of echinacea, a dose every three hours. I told the family that I should not call on the 27th, unless something more than just the fever-condition were to turn up. About 4 o'clock on June 27, I was called to see her, being told that the patient was having "some pains in her stomach."

Upon my arrival, I found the woman in labor, and I remained for several hours. The labor-pains were very slow. I informed the family that the baby or babies were dead, I believing that there were twins. After several hours' waiting, finding dilatation sufficient, I ruptured the amniotic sac. The amount of fluid escaping was enormous. Then, after some time, I tried to use the forceps.

The head was well placed, so, I thought there would be no trouble in delivering the child; however, I worked until completely worn out. It was impossible to get a firm hold of the head with the forceps. Finally I told the family that this was not a one-man job, and called in aid Dr. F. O. Taylor. When he came, though, he could not do any better than I could. Eventually, we decided to perform podalic version. I inserted my hand and arm up to my elbow and grasped one foot, when Doctor Taylor could manipulate on the outside while I indicated how I was coming around with the foot. After securing one foot and leg, I turned the case over to Doctor Taylor, for, I was completely exhausted. After many fruitless efforts by both of us, we decided to take a hold of the leg that we had out and pull on it until we could move it some way. Exerting our utmost strength, we finally pulled the body out to the head, and there the body stopped. We worked with instruments and our hands for some time.

When we got the head to pass, we found what had been the cause of our trouble. There were two girl babies, as complete babies as you ever saw, but, only one head, and this head had two faces. The bodies, from the head down, were as perfect as those of any normal baby. The faces, Janus-like, were turned in opposite direction. I am sending you the best photograph that I could secure; while not good, you can see the face of one and the back of the head of the other one. The two babies weighed 14 1-4 pounds. The mother is about 28 years old and weighs about 120 pounds. Within three days after the birth of the babies, notwithstanding the severity of the ordeal, the mother's temperature went down and she made as fine a recovery as she did in her five previous confinements. In Edgar's work, fifth revised edition, page 417, is a picture of a similar monstrosity, this one, though, differing in that the face is turned.

Dr. Parker's Case.

JOSEPH J. PARKER.

Winfield, Tex.

AN UNORTHODOX TREATMENT OF GONORRHEA

Today, I am going to tell of some of my experiments and experiences in the care and treatment of that old and well-known malady—gonorrhea.

After many years' trial with all the old and many of the new remedies, I finally worked out this idea: The gonococcus loves an acid medium. Why not neutralize

that medium? So, instead of oils and injections and all the rest, I use sodium bicarbonate and, with it, tincture of nux vomica. As a germicide, potassium sulphate.

When a patient comes to me, he often says: "I have had this trouble for months —or years—or weeks—or days. Those with older cases tell of suffering and disgust and expense and, withal, of despair of ever getting well.

But, why recapitulate? You doctors know the story as well as you know your alphabet. I simply say, you are dealing with what is known as one of the most stubborn of diseases. It often is masked by treatment. Sometimes a man becomes immune to his own infection, and, yet, is a dangerous person, for, his urine shows the diplococci of Neisser, and, hence, is capable of infecting a woman; for, the disease so long dormant in him becomes active at the embrace; or, if she be his wife, she sooner or later will have infected fallopian tubes, become an invalid, have to go to the hospital to have the tubes removed, become sterile. Gonorrhea is largely responsible for there being only one child in the many families: the first birth is normal, but, pus-tubes subsequently blot out the woman's ability to become a mother.

This is not the hand of Providence, it is the wild-oats crop sown by the young man in his salad-days. He is the criminal and his wife, the dearest object in life to him, pays for his sinning.

The first thing I say to one coming to me for treatment is this: "The treatment costs you ten dollars a week, always in advance. It will take six weeks or longer. You must do as I prescribe, or I will have nothing to do with you. When I think the time has arrived, we shall have laboratory-tests made, for which you are to pay. Then, when I pronounce you well, you can rest assured that you are cured. Your name will not appear, but, you are to know that the laboratory, and not I, pronounce your freedom from infection. You are to wear a suspensory bandage. You are to live frugally. Take a tablespoonful of epsom salt every other day, before breakfast, in half a glass of water. Absolutely avoid sexual intercourse, also all intoxicants. Bathe the whole body often. Faithfully take the medicines ordered by me, and report to me twice a week for further advice."

This is the medicine:

Tincture of nux vomica.....10 drops
Sodium bicarbonate.....20 grains
Label: One tablespoonful in a glass of Water ..... 8 ounces
water before and after each meal, three times a day.

Also this:

Kali sul. 3x.....25 tablets
Water ..... 4 ounces
Label: One tablespoonful between meals.

Presumably the reader will say, "This is all nonsense," but, let him try this patiently and see what comes of it.

I do not write prescriptions, so, the patient does not know what he is taking. For the convenience of many, I put the medicine in half-pint whisky-bottles, without label of any kind. One bottle will have an ordinary cork, the other, a glass stopper, so that they can be easily distinguished. As many here are transients, boarding or rooming, they are closely watched by landlords and owners of rooming-houses. An unmarked whisky-bottle excites no suspicion.

In case there is orchitis, which is really epididymitis, I prescribe the following:

Mother-tincture of pulsatilla
(which I find best).....10 drops
Water ..... 4 ounces
Label: One tablespoonful every hour.

In the place of the old bran-bag poultice, which is nasty and not often easy to prepare, I have the heat applied by means of a hot water-bottle, partly full and wrapped in a towel. This gives comfort and excites no suspicion.

To some of my readers, the term kali sul. 3x may be an unknown term and pulsatilla an unknown drug. You may consider me a pariah, because I call your attention to some things outside of the regular pathway of medicine as we old-school physicians know it.

There is a book known as "Schuessler's Twelve Tissue Remedies", in which it is endeavored to show that the human body has twelve dominant, or controlling, elements, which, when in proper equilibrium, constitute health; the lack of any one or all of these constituting disease. These salts are all inorganic. They must be given in fine dilution, in order that the cells of the human body may assimilate

them. The philosophy of this therapy is interesting, to say the least, and for more than a quarter of a century I have made careful bedside tests with it and found the most wonderful results following the administration of the absurdly small doses recommended by Schuessler.

While the book is published by the Luytes Pharmacal Company, of St. Louis, (a homeopathic house), Schuessler, in his book, says that he is not a Homeopath. Neither is his method of treatment homeopathic. While we are on the subject: doctor, it will broaden you greatly to read homeopathic books, for, out of them, will come some revealing thoughts—and you will, really, now, not become contaminated by the lesson. We, as regular physicians, have a right to take any remedial measures that come to our hand. The patient, and not "pathy", is the thought that should be in our mind. Health and its continuance is the object of our ministry. Whatever assists in this, is proper treatment.

Three summers ago, a fine-looking, tastefully garbed gentleman called upon me in much distress, physical and mental, and with tears in his eyes and voice told me that his lovely wife was away on her vacation and he had fallen in at the restaurant with a young widow, and that a gonorrhea was the woman's contribution to him. This man had a fine-paying position, and he was a scholar and a gentleman. His wife was of a fine family. This simply meant divorce, and worse than death to himself. I quieted the man down, and we began treatment. His attack was a bad one.

I had tests made from smears, just to please him; I knew he had it. I kept him on treatment. I told him it would vary, that at times he would be worse, especially if he caught a cold; then there would be times when the discharge would disappear. And so it proved. Sometimes he would come in bright and smiling, declaring he was well, the next time, he despaired of ever getting well. In the fall, his wife wrote that she was coming home. I suggested that he tell her to delay; but, he said he had written that he had rented a house and was going to move next week. I said, to tell her that he had decided not to take that house. So, I kept him two weeks longer before having tests made, and then we found no gonococci. "Now", said I, "let her come. I have been fighting for her. It is now safe for her to return."

I saw that man a few weeks ago. He tells me that they both are well, that no gonorrhea has manifested itself in either of them.

C. S. Cope.

Detroit, Mich.

PROPHYLACTIC VACCINATION AGAINST SPANISH INFLUENZA

For about three weeks, I have been using, for the prevention of Spanish influenza, as well as in its treatment, the micrococcus catarrhalis combined bacterin. I was led to use this bacterin by the fact that it seems to contain the organisms which are known to be present in almost every patient suffering from the disease, namely, the pneumococcus (the different types), the streptococcus both hemolyticus and viridans, and the micrococcus catarrhalis, as well as the bacillus of Friedlander and staphylococci. As attending physician at two institutions, I have had an opportunity to try this vaccine as a prophylactic on a rather large scale and to test its efficacy.

At Lawrence Hall, an Episcopal home for boys, from 10 to 12 had been coming down with influenza every day for two days. From 15 to 20 of the boys had been sent home from school on Friday. These were inoculated Saturday morning, and of this number 10 had temperatures of 102 to 103 degrees, but, by Sunday, following the reaction, the temperature in all cases dropped to 99° F. or thereabout. I inoculated the rest of the boys in the institution the same evening, and there have been no new cases. There are about 135 boys living at Lawrence Hall.

My experience at the Bohemian Old People's Home and Orphan Asylum was similar. Here, also, there had been from 10 to 12 inmates coming down every day. On one day, 17 children were sent home from school for coughing, and these I inoculated within an hour after reaching home. About 8 or 9 out of the number showed an elevated temperature the following day, but, all were improved within forty-eight hours. I then inoculated all the children in the Home (more than 130), and no new cases have developed since, so

that the outbreak practically was stamped out in forty-eight hours.

I have also used the catarrhalis combined bacterin in my private practice for several weeks and have found that it usually prevents the disease, modifies its severity when it has developed, and prevents the complicating pneumonia, which so frequently causes death. I also give this bacterin, with benefit, in the case of children, even two or three days after they have come down with the disease, but, in adults, after the pneumonia has set in and congestion is complete, it does not prove so successful. However, I have treated, with much benefit, several cases of influenza in which pneumonia had developed. One woman had had influenza for a week, when the temperature suddenly shot up to 104.5 degrees. After two doses of the catarrhalis combined bacterin, the temperature went down to normal.

If the first dose is given within twenty-four hours after the first symptoms appear, the temperature usually will begin to recede and fall to normal.

Children are benefited by the bacterin late in the disease, even after the disease has run for several days.

In adults, if the patients are still showing a temperature twenty-four hours after the first dose, I repeat it. The temperature will go up, but, after this second dose, it usually will return to normal within a day or two. If there is a reaction following the first inoculation, I give no more. If the temperature goes up and does not come down, I give another dose in twelve to sixteen hours. I never have given over two or three doses in the treatment of a case. I saw a case on Sunday—a man who had been sick for a week; temperature, 100 to 101 degrees, gave him a dose. The temperature went to 105° F. on Monday. It probably will be down today (Tuesday).

You can use the vaccine at any stage during the influenza, if there is no pneumonia; you can use it at any time during the influenzal stage, even after a week, but after consolidation occurs, you can not expect it to accomplish much.

I have now used the catarrhalis combined bacterin in more than 600 cases, either as a prophylactic or in the course of treatment. Only one patient receiving this treatment died. This patient (a woman) improved greatly, her temperature dropping to normal, but, she died in collapse from acute heart weakness when apparently convalescing. I have lost 2 other patients.

CLAYTON ALDER.

Chicago, Ill.

'WARE OF THAT NEW "FLU"!

The *Chicago Daily News* for November 19 contained the following item which we reprint as being of interest to our readers:

Chicago is warned to take precautions against a new epidemic of influenza. While the wave has about disappeared in the city, surrounding towns are experiencing outbreaks even more virulent than was the case a few weeks ago.

Hammond, Gary and other northern Indiana towns are experiencing new outbreaks and the Lake county public health authorities are showing considerable alarm. Lake Forest, too, reports a fresh outbreak, the disease appearing in Ferry Hall, a girls' fashionable boarding school, and one of the pupils has died.

Such outbreaks, however, are not classified by health officials as a part of the new epidemic, but show the disease had not been thoroughly stamped out. The warning they are issuing to-day is of a fresh epidemic that is now sweeping through France and other European countries, and which they declare will reach this country in a matter of time, just as the disease reached Boston from Europe a few weeks after its outbreak abroad.

The Journal of the American Medical Association, in its issue of Saturday, reprints the following taken from bulletins issued by the government for circulation among the American medical officers in France:

"During the last two months a second severe influenza infection has swept over France and has spread to all countries of Europe in about equal force. The second phase, which has not yet reached its maximum, has been characterized by a much higher percentage of initially severe cases and particularly of pulmonary complications.

"In the United States the onset of the [first] epidemic was, as is usually the case with pandemics of influenza, about three weeks later than in London or Paris."

Dr. W. A. Evans and Dr. John Dill Robertson, commissioner of health, agree that it is only a matter of time before the new epidemic reaches Chicago. Both urge

the public to prepare by vaccination to meet the new scourge.

"There is no question that we will be hit by a new epidemic," declared Dr. Evans. "It is just a question of how long it will take to cross the ocean and reach us, as was the case of the past wave."

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[This wave of "flu" that is now going over Europe and is certain to reach the United States soon, of course is merely a part of the same epidemic that we have been experiencing for the last few weeks. Already it has visited this country, finding additional victims among those who no longer indulge in the outdoor life of summer and autumn that has kept many people well.

Personally, we are convinced of the very considerable degree of protection afforded by immunization against influenza diseases by means of the Rosenow vaccine. At the same time, it will be well to practice additional precautions in the way of disinfection of nasal passages and throat by means of antiseptic sprays, all of which is to be supplemented by careful attention to personal hygiene and by a regular and moderate mode of living.—ED.]

THE VOLUNTEER MEDICAL-SERVICE CORPS AND THE INFLUENZA EPIDEMIC

In view of the present serious epidemic that is sweeping over the country, the Volunteer Medical-Service Corps of the Council of National Defense requests us to invite earnest attention to the following precautions in which the families under the care of physicians should be instructed.

In order to secure individual protection against influenza-infection, and, indeed, against other infections, as well, thorough cleanliness of houses, premises, clothing, utensils, and the body should be practiced.

Since the infection probably is carried by the dust, one should avoid stirring that up. Better it is to prevent dust—in the streets, by means of crude oil, in the houses, by the use of vacuum-cleaners and of moist dustcloths. Thorough cleanliness, plenty of soap and water, are splendid protectives against disease.

For personal prophylaxis, nose and throat should be sprayed and gargled frequently with alkaline and antiseptic fluids,

Physicians, and others, are urged to cooperate to the fullest extent with the local state and national boards of health. Towns and cities should be prepared for emergencies by establishing emergency hospitals in suitable buildings, by districting communities and apportioning and grouping medical forces comprising men and women and physicians and nurses arranged in such a manner that no portion of any community may be left without adequate medical care.

The United States Public-Health Service and various local health-authorities have published circulars containing warnings and directions regarding "Spanish" influenza, and these should be circulated as widely as possible and also explained to the public wherever this may be necessary. It is to be said that these circulars are written in popular language; still, in many localities, detailed explanations may be required.

Now, more than ever, the importance of fresh, clean air should be insisted upon, as also the avoidance of chilling as well as of excessive heat, excessive meaning anything over seventy degrees Fahrenheit in living-rooms.

Physicians, in fighting the epidemic, are cautioned, against administering medicines and other forms of treatment that may depress the vital forces, especially the heart. Everything should be done to promote the patient's resistance and nutrition.

The Volunteer Medical-Service Corps reminds us that, as the army and navy have been fighting and conquering Germany and, as their presence still is required in Europe, we at home must fight and conquer disease without depriving the army and navy of any necessary resources. The medical service of the government should not be asked for medical and surgical supplies, the home supply being utilized, instead, to the fullest possible extent.

Physicians are further warned, during the continuation of the epidemic, not to undertake surgical operations except when absolutely necessary to save life.

Altogether, not only members of the Volunteer Medical-Service Corps, but, all physicians are urged to cooperate fully with the United States Public-Health Service, as well as with the state and municipal health-authorities.

In the World War

THE MAKING OF AN ARMY-SURGEON

Life at a Base Hospital in France

I had been flattering myself that I was making good progress, in my assignments, in getting toward the front. So, when I was ordered to report at a base hospital, I was disappointed—not, for any dislike for base-hospital work, but, that it meant that I was to go back 150 miles instead of forward to the fireworks. In the Service, however, one soon learns to go where he is ordered, so, to the base hospital I went, reporting there with the least-possible delay.

Upon arriving at my new station, I found that what was now a hospital had been, before the war, a school for boys. On either side of the old stone building, were frame buildings for extra wards, nurse's and officer's quarters, supply-office, and storerooms.

After reporting to the Commanding Officer with a copy of my orders and being introduced to the other officers who happened to be about, I was assigned to a general medical ward and started to work. At that time, our hospital had a larger percentage of medical than surgical cases. It being in the winter months, we had plenty of contagion cases and accidents to care for.

A hospital of this kind might be called an internal-medicine man's paradise. By this, I mean that here we have a wealth of material, a variety of cases, the assistance of a good nursing force of American Red Cross nurses, laboratories, x-ray, postmortems, and nearly everything that characterizes a first-class hospital. Besides all these things, there was to consider the youth and vigor of the patients, which, from a medical standpoint, was a big factor in gaining favorable results.

Here, I was destined to spend more than six months' service. These months were filled with incidents interesting, educational, pleasant, and some that were not so pleasant; but, from the standpoint of a man that is fond of new happenings, as I must admit I am, they were all interesting.

Our prescribed routine began by arising a little before 7 o'clock, breakfast at 7:30, visit wards during 8 to 11, attend officer's meeting at 11:45, have noon luncheon at 12, then, usually, relief from duty till about 4 in the afternoon. Then, visiting wards again from 4 to 5:30 p. m., dinner at 6 p. m., then off duty for the rest of the day. However, sandwiched in between this apparently easy program, there were many calls on our time that kept us on the move all day long. At 9:30 a. m. there were the necropsies, to which we would proceed from our wards in order to check up the *ante mortem* findings with the *post mortem* findings. At our officer's meetings, we asked for information on the proper making-out of forms and reports mentioned, and on improvements that we could discover from time to time. After luncheon some one of the M. O.'s would, probably, relate some interesting or puzzling case of which he would like to have our opinion; or, an hour might be spent in the x-ray room puzzling over some mysterious shadow on a plate taken of one of our patients, for, we have many "chest-cases" during the winter. We would profit thereby by the Roentgenologist's interpretation of the many shadows that at first seemed just a mass of blurs. Or, we might make a visit to the laboratory, to follow up a blood, sputum, serum, urine or feces analysis.

Once a week, we had a medical meeting of the entire hospital staff. Here, we discussed our cases. For each meeting, one of the staff was chosen to give us a talk on his particular line of cases, for the succeeding meeting. Our Commanding Officer gave us talks on gas-warfare, regimental medical work, malaria from the army standpoint, its prevalence and treatment, British medical customs, his experiences at the battle of Cambrai; the Chief of the surgical staff talked an hour on empyema. The

Chief of the medical service gave us talks on contagion and general medicine. Our Roentgenologist gave us an hour's talk on x-ray work, "illustrated" by a great many plates of our own patients. New conditions that arose in the course of the war were discussed as they came up. Members of our staff that had been sent from time to time to different cities, for the purpose of instruction, went over this information with us at the meeting following their return. Visiting medical officers would often address us for an hour on some new phase of an old condition. These meetings

A Sterilizing Room.

were the source of a great deal of interest and certainly were educational. In this way, we were kept strictly up to date and to the strongest kind of harmony and cooperation between the different departments.

Sometimes we would have to sit in at a Court Martial, either as a member or as the Counsel for the Defense. For, soldiers will occasionally slip and break one of the Articles of War, and then, for the sake of correction and discipline, they must be taken to task.

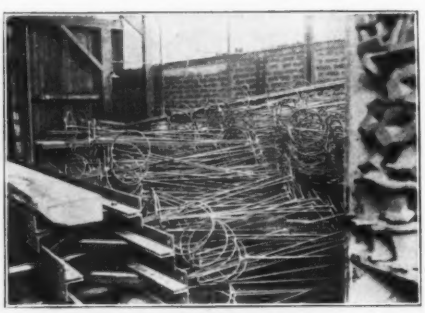
These were but a few of the calls upon our time that helped to make our work both interesting and fascinating.

There was plenty of diversion, also, for, all work and no play would not be a good program, either. The Y. M. C. A. and the Red Cross both had huts on the hospital grounds, where nearly every night there were moving pictures, concerts or lectures. These lectures were by some of our prominent men from the States. They dealt with many different subjects, from the ancient history of this particular part of France to conditions existing in the world today, including Prussianism, Russia, and the latter's troubles. The medical officers of the hospital gave dances for the nurses, weekly or bimonthly, in their hut. Line Officers and Naval Officers attended these dances, and the Khaki and Navy Blue made a good blend of colors on a ballroom floor.

On a Sunday afternoon, a walk out into the country afforded us a chance to see the native villagers in their Sunday best. It seems to be a custom for the people of this district to spend their Sunday afternoons walking along the country roads, for, we would pass groups of them dressed, as I have said, in their Sunday best clothes, quaint old starched bonnets, wooden shoes, and all. They were mostly of the peasant class, of rosy complexions and open countenances, passing us with the ever present *"bon jour, messieurs."*

Wood has been scarce for centuries in this part of the world, it seems to me. Practically all of the buildings were built of stone or cement, with tile roofs. I have seen very few frame buildings since I have come to this country, other than those that have been built by our Government. To look at these houses, their white walls and red tile roofs, little gardens around them and the bright sun shining down, it was hard to get one's self to believe that but a few hundred miles away men were bleeding and dying in order that this peace might persist and these old people be spared their homes.

One Sunday, I had the rare luxury of



A Paris Splint Workshop.

an automobile ride to a neighboring small city of the fourteenth- or fifteenth-century type. Here, we saw another of those old chateaus, or castles, with its ivy and moss-grown walls, while on three sides of it were the remains of an old moat. Just within

At the American Red-Cross Laboratory in Paris. Assembling Burlingame Units (emergency sets), to be sent to the Front.

the walls that surround the city on all four sides, nestled the town proper. The streets were very narrow and the houses and stores were crowded closely together, as though space had been at a premium when they were built. We bought some souvenirs, postals, and some French-briar pipes. Before starting for home, we ate a meal at the best hotel there, and we were agreeably surprised to find that the chef had at one time worked at some of our good hotels in the States. He tried to outdo himself in the preparation of the meal and succeeded so well that at the finish, when he expressed a liking for American cigarettes, we gave him all that we had with us.

Our enlisted men at the hospital formed a base-ball team, and, as the weather improved, they challenged teams from other organizations near us. Some times we would play on our home grounds and some times we would go to the grounds of the other teams. In this way, we officers who went along to help root had a healthful and enjoyable afternoon's sport and had a chance to see some of the other camps—once to an infantry camp, once to a naval-air station, once to another base hospital, and so on. Several pleasant evenings were spent by some of us as guests of the Transport Medical Officers, sometimes on their ships, and sometimes at someone of the cafés in that city. We, in turn, invited them at times to share our mess at the hospital. In this way, we managed to keep in touch with the happenings back home. There is an old saying that "nothing broadens a man so much as traveling"; but, it is the people that one had a chance to meet that have to do with the broadening.

Some days we had afternoon concerts by the regimental bands of the troops camped near us. These were primarily for the benefit of the patients, of course. The band would arrive about 2 o'clock at the park in front of the hospital and play for about two hours. Many a weary heart they comforted by their patriotic airs, the strains to infuse new life into the patients and to lend an air of romanticism to the old walls of the hospital. One night, we were invited to the barracks of one of the French regiments nearby, where a French Major of Chasseurs lectured to us for nearly an hour and a half, to explain to us how to tell the rank and branch of service of the French soldiers and officers by their uniform and markings. The French uni-

form and markings are very elaborate and are not nearly as easy to understand as are ours.

Organization applies to almost everything in a military hospital. For instance, we had our fire-department. Certain of the medical or sanitary-corps officers were detailed to the different stations within and without the hospital, and their details of enlisted men were appointed, for instruction under them. Fire-call was sounded on the bugle, at different times, for drill purposes. On the sounding of the call, the ward-surgeons were to repair at once to their respective wards, the patients in that ward were to remain there each by or on their beds till the drill was over. Hand chemical extinguishers were in every ward, while in a shed adjoining the hospital there was a larger chemical fire-extinguisher with hose attachment, that could readily be run out to the scene of the fire. Preparedness surely applies to fire protection, and I was very glad to see drills of this kind. The time to prepare for a fire is before it happens, and I admire the foresight that can see that far ahead and be organized, so that when the time comes and a fire does happen there will be no panic or loss of life resulting.

American Red-Cross Dispensary, Paris.

Inspection of the enlisted men of the medical department, with their equipment, was held every Saturday afternoon. Six of the officers were detailed to stand inspection with them; one Medical Officer acting as Commanding Officer for the Detachment, one as the Inspecting Officer and four as Junior Officers. This was good training for us, as we all aspire to be Commanding Officer some day.

General Pershing honored us by inspecting us on one of his visits to this base. All calls for the daily routine were by bugle, from the sharp, clarion-like first call and reveille, by which we were awakened, to the sweetest and saddest of all calls, taps, or lights out, which was the last call of the day.

In the spring, the American Expeditionary Forces and the French Government joined hands in the food conservation plan, one outcome of which was the forming of garden-clubs. At our Post, a Medical Officer was appointed as Garden-Officer. He was instructed to see to the planting of any and all available land around the hospital. Between the outlying wards and buildings, were small strips of ground, small but fertile. These strips were planted with vegetables, seed being furnished by the Government. So that we over here are doing what we are asking you over there to do—conserve food, by using less and producing more. At our hospital, we went the garden proposition one better. Out of some old lumber that we had for the salvaging, neat little houses were built, and we started to raise our own rabbits and poultry, with a halfway promise that at some future date we might have a sanitary pigpen and raise our own pork. The waste from the tables of several thousand patients could be used to good advantage in this way. We also raised our own guinea-pigs for the laboratory. Knowing the enormous task that our Government has to do, not only to transport millions of troops over here, but, also, to transport equipment and food for them, every little that we can do in the raising of meat is just that much less to be brought over.

(To be continued.)

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

Origin, Development and Use of the English Language

If we endeavor to trace the origin of the great mediums of thought that from imperfect beginnings have grown with the course of civilization and intellectual advancement until they finally crystallized in definite languages, we shall find ourselves confronted at every step with the doubts and obscurities which attend the birth and early history of all human achievements that have marked the world's progress. Especially is this so when we attempt to solve the problem of earlier tongues, the very vestiges of which either have long since disappeared or remain only in fragmentary forms the interpretation of which, notwithstanding the earnest investigations of profound scholars and critics, seems likely to remain to us forever a sealed book whose records no ingenuity or research of man can reveal.

To speak, then, of any language as derived from fixed and intelligible sources, implies a perfect acquaintance with the character and history of the people or peoples with whom it originated. But, it is precisely here that our knowledge is most at fault; since all annals of mankind prior to the rise and fruition of Egyptian civiliation are wrapt in almost profound obscurity, amid which we can catch only here and there a gleam of uncertain light—too faint to guide us in our anxious search. This may be said to hold respecting the simplest tongues of which we have any satisfactory idea. How much more so, then, regarding a language so varied and complex as the subject of our present study—the English!

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In the vast and important family of which our mother tongue, together with its cognate idioms, forms a distinguished branch, we may trace with something approaching certainty a connection with families of previous growth and decadence. The Latin element, for an example, may be followed back through Roman and Greek and, finally, to the pre-Sanscrit language—written vehicles of thought with which linguists have long since become familiar; these presenting, in themselves, no great difficulty to the student and affording a rich field of investigation from which we derive new stimulus to labor. Here, however, with the great Sanscrit and a few preceding fragments deciphered from the cuneiform inscriptions of Babylon and Nineveh, we enter upon a region of doubt, the confines of which are unstable and well-nigh bewildering. We have reached a civilization whose history has perished with itself, and into the gloom of this—the prehistoric period, as it is called—the researches of modern thought in vain would penetrate. Let us determine, therefore, such elements of the English language as do not baffle inquiry, leaving its remote origin enveloped in its insolvable mystery.

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The earliest authentic record of the inhabitants of Great Britain points to a rude and barbarous people, dwelling somewhat like savage hordes, among whom little trace of future development is discernible. They formed parts of the Celtic race, which appear to have spread over a large portion of western Europe, and which were known in the different regions of the continent as Celts, Gauls, and Cimbrians.

The earliest account of the ancient Britons begins with the conquest of England under Julius Caesar, in 55 B. C. Strong in the spirit of conquest and powerful in the supremacy of a splendid empire, the Romans had gradually extended their dominion over a greater part of the then known world. It needed but the energy and sagacity of their renowned chieftain to lead them yet further, into the land which their own poet described as "cut off from the whole world." Notwithstanding the most obstinate and severe resistance

against the invaders, the ancient Britons were impotent to withstand the skilled armies that confronted them, and during the first century of the Christian era unwillingly submitted to the yoke. It must not, however, be understood that the Roman domination extended over what is now known as the United Kingdom of Great Britain, viz., England, Scotland, Wales, Ireland. The occupation under Caesar was limited to the central and southern portion of England proper. The Celts inhabiting the remaining portions of the island — including the mountainous country, Wales and the highlands of Scotland—retreated into their strongholds and made successful resistance against the Roman arms. Ireland remained secure from invasion, chiefly from its geographical position and the determined character of its brave and hardy population.

During a period of about four hundred and eighty years—which brings us to the close of the fifth century of our era—the Latin conquerors maintained their sway. Such of the native inhabitants as were subjugated by them gradually acquired their customs, learned their language, and peacefully submitted to their rule. It was but natural that the arts and culture of Italy should have influenced in no small degree the advancement of British civilization even at this early period. Traces of ancient masonry remain to this day in England, to attest the intellectual superiority of the conquerors. Lines of fortification, towers, and military highways still are to be discerned, and we may easily conceive that during this interesting epoch in the history of Great Britain the germs of future magnificence were sown. Yet, the impulse that was to awaken a new era in the advancement of native power was not destined to be derived from the more enlightened possessors of the soil.

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To a people hitherto almost unknown, save as ocean-marauders, England owes in great part her ultimate liberation from foreign tyranny. Throughout the long course of Roman occupation, the usurpers had been subjected to frequent attacks and invasions on the part of those islanders who from the first had resisted usurpation. From the mountain retreats, whither they could be pursued only with the greatest difficulty, bands of sturdy warriors from time to time swept down upon the scattered legions of Rome, carrying with them devastation and dismay. A more serious difficulty, too, at length pressed upon the invaders when the inroads of the northern barbarians threatened the integrity of the Roman empire itself. Everything combined to hasten the recall of troops to defend the safety of Italy and preserve undimmed the honor of a country which every Roman regarded as a proud and sacred heritage. In this extremity, England was abandoned, and then it was that the Saxon pirates, who had been called as allies by the Highlanders—the warlike and indomitable Picts and Scots—took possession of the land. These Saxons came from various points along the German Ocean and Baltic Sea—chiefly from Schleswig and Holstein and adjoining shores.

Endued with remarkable courage and sagacity, these Saxon hordes—finding the island more fertile than their barren home lands—at once stamped upon their new habitation the impress of their skill and power. Sprung from a mighty branch of the human race, these new invaders were not slow in availing themselves of every resource vouchsafed by their sudden and complete ascendency. And it is from them and their immediate influence in England, and later in Scotland and Ireland, that there may be later the first important epoch in the formation of the language the literature of which we are about to consider.

From rude ballads and war songs sung around ancient hearthstones and thrilling with the glorious deeds they commemorated, there was gradually developed a simple, yet, mighty tongue, which today constitutes a large part of the vocabulary of our English language (more than 25,000 Anglo-Saxon words). Nearly all our words expressive of varied emotions; those which are designed to convey the simplest ideas and those which relate both to animate and inanimate nature have their origin in the Teutonic tongue implanted by the Saxon adventurers. (The remaining portion may be said to have come down to us from a multiplicity of sources—principally, as we shall see, from the Latin, not, however, through the Roman dominion, but, through the Norman-French referred to later.) From rude beginnings, the language of the Saxons attained, in the course of a few centuries, a more highly cultured and elaborate form. Chronicles of the period, interspersed with legal and eccles-

iastical disputations, served to strengthen and perfect the new tongue; and the history of former achievements, contained in the ancient war songs, or sagas of the seakings, lent to the language a vigor and simplicity, a force of diction and a certain grandeur of expression that still characterize the idiom and have given it a power unlike that of all other modern tongues.

For upward of five centuries, the language continued to develop, notwithstanding continuous scenes of disorder and bloodshed from internecine strife and colonization of the barbarous Danes, who sought to wield over the Saxons the same sway the latter had established over the aboriginal Celts. At length, there came a day when even the powerful followers of the good King Alfred were destined to yield to an invasion, the significance of which, in the ultimate modification of our language, we hardly can overestimate—I allude to the occupation of England under William the Conqueror toward the close of the eleventh century.

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A more brilliant passage in history than the Norman conquest scarcely can be found. Filled with the romantic spirit of the age, skilled in a language whose delicacy and variety of expression could hardly be surpassed, and maintaining a court whose brilliancy rivaled the princely splendors of the middle ages, William and his followers found a rapid and easy way to the sovereignty, not only of the island, but, of the harsher manners and customs, and the still weaker elements which they encountered. Scornful of the native tongue, ecclesiastics and scholars vied with each other in diffusing the stately, refined dialect of Normandy throughout the kingdom. In the courts and schools and wherever in the land the system of feudal vasselage was established, Norman-French became the spoken and written language.

The natural result of this was, a powerful influx of Latin words, through the French —an idiom derived mainly from Latin sources. True, the Roman invasion had grafted upon the original Celtic tongue a limited vocabulary of Latin words, remnants of which still are to be traced in such prefixes, terminations, and words as *Strat*ford (*strata,* street); *Chester* (*castra,* camp); *Lincoln* (*colonia,* colony) and *Port*smouth (*portres,* port); yet, their number is insufficient to permit us to regard contact with *Latin* as the chief origin of the Roman element in our language.

The real derivation of this all-important feature of English is to be referred to the Norman conquest. As an illustration of the beauty and grace with which Anglo-Saxon became adorned, we may mention Chaucer, whose "Canterbury Tales" form the most striking example of refined, sensitive thought, combined with great terseness of expression, and mark the golden age of Old English literature. Spenser referred to him as "Dan (i. e. dominus, don or master) Chaucer, well of English undefiled." Yet, some critics maintain that his real merit, so far as language is concerned, lay in his skilful mingling of Norman-French with Anglo-Saxon or Old English, and that thus he is entitled to the honor of originating a new literature.

Is it not a little singular that, considering its strength and forcible though wide expression, the Celtic dialect should have almost wholly disappeared from our language, scarcely one hundred words in present use being traceable to its influence?

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We have, then, in the formation of the English tongue an original basis of Celtic, gradually modified by the Roman invasion, this later almost obliterated by the occupation and sway of the Saxon adventurers, and then, finally, strengthened and perfected under the long reign of the Normans. From the later epoch, a change has slowly ensued; still, generally speaking, the language has undergone no modification comparable with those which marked its earlier growth.

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It will thus be seen that ours is, in no respect a simple tongue. Indeed, it may, rather, be regarded as a combination of the most heterogeneous elements, each of which has played an important part in its formation and character. Unlike other modern languages, English is trammeled by no fixed canons of taste, but, keeps pace with the full interpretation of the marvelous that distinguishes the age in which we live. The immense impetus given to scientific inquiry has necessitated new forms of speech and a new phraseology adapted to our constantly advancing method of thought and the full interpretation of the marvelous discoveries that, like morning light upon the earth, are breathing upon the mind of man. From every available source, we draw

whatsoever is required to lend power and versatility to a language that is gradually becoming a universal medium of intercourse. Simple in structure, flexible in all that demands nicety of expression, grand and sonorous in diction, and in its earnestness and force of utterance rivaling the finest languages of Europe, our stately and graceful idiom may well command the respect of others and veneration by ourselves.

Amid the struggles and bloodshed that accompanied the establishment of power in England, this English language took deep and lasting root. Its parentage is associated with the pomp and splendor of things; its later growth embodies the aspirations of a people battling for freedom; and now, in this twentieh century, we behold it, if not in its perfection, still occupying an exalted rank among the tongues of earth. With a vocabulary sufficiently varied for the purposes of intellectual growth — numbering upward of 120,000 words—a principle in itself that guarantees even and constant development and a literature equal to, if not surpassing, that of all other languages, it is quite within the bounds of possibility that it may attain a supremacy in the world of speech and letters equal to that it now exercises in the domain of commerce. There no longer is hardship in travel around the world, unless one attempt it without money or the English language. The latter has now become the first foreign language to be learned by the millions of Japan, China, Malaya, India, and Egypt, and ranks either first or second in all others, with a constant tendency to become first. Both Volapuk and Esperanto were devised too late to enjoy a ghost of a chance against this tongue—already pervasive wherever the merchant with his wares or the missionary with his culture penetrate.

We should come, therefore, to a study of the best English authors with ardent, yet, liberal minds, conscious of the law of freedom that has molded their thought and style; with no preoccupation other than a sincere desire to know and understand one of the grandest triumphs of human progress and of mental culture, upon which the welfare and happiness of mankind so largely depend; for, we must remember that language not merely is the vehicle of thought, designed to facilitate intercourse among the nations of the earth, but, that all emotions of which the mind of man is susceptible, all manifestations of human will, and the higher, holier intuitions of the soul are but the fountain hidden in the rock, the pupa in the crysalis, until they have been vivified and called into living reality by the power of thought moving among and transforming them through the mystic touchstone of language.

So much for retrospect. Now permit me a brief contribution to our own present efficiency in the use of this priceless heritage.

(*To be continued.*)

Vision

IT isn't raining rain to me,
It's raining daffodils;
In every dimpled drop I see
Wild flowers on distant hills.

The clouds of gray engulf the day
And overwhelm the town;
It isn't raining rain to me—
It's raining roses down.

It isn't raining rain to me,
But fields of clover bloom,
Where any buccaneering bee
May find a bed and room.

A health unto the happy,
A fig for him who frets;
It isn't raining rain to me,
It's raining violets.

—*Robert Loveman.*

Among the Books

CROFTON: "IMMUNIZATION" CROFTON: "TUBERCULOSIS"

Pulmonary Tuberculosis, Its Diagnosis, Prevention, and Treatment. By W. M. Crofton, M. D. With Colored Frontispiece and 20 Illustrations. Philadelphia: P. Blakiston's Son and Co. 1917. Price $1.50.

Therapeutic Immunization: Theory and Practice. By W. M. Crofton, M. D. Philadelphia: P. Blakiston's Son and Co. 1918. Price $2.50.

The author of these two volumes, who is lecturer in special pathology at University College, Dublin, has done much original work during the last few years in an endeavor to develop a satisfactory method for immunization against tuberculosis. One of the difficulties confronting him, as also the experience of other workers in this field was, the unsatisfactory nature of the antigens presented by the available tuberculin preparations on the market. Doctor Crofton, therefore, elaborated a tuberculin preparation of his own which, like the American-made vaccine introduced by Dr. Karl von Ruck, in 1912, is believed to contain all reactive constituents of the tubercle bacillus including the fatty substances, and, therefore, to be capable of stimulating the production of a complete antituberculous immunity.

Doctor Crofton lays stress upon the importance of protective antituberculous immunization, and the only way in which this can be brought about is, in his opinion, by stimulating the production of specific antibodies or of a mechanism facile in the production of these antibodies in the individual by inoculating him with the toxin or vaccine of the particular microbe against which an immunity is to be created ("Tuberculosis," p. 66). "In the case of a universal infection like tuberculosis it is the one measure that will protect when the constitutional resistance is lowered by the various environmental and inherited causes of low resistance."

So much is the author convinced of the justice of his postulate that, according to him, (*ibid.* p. 68) "while everyone ought to be inoculated against this disease so as to make sure that his resistance is at least normal, since everyone is certain to put up a fight against it some time or other; there can be no question as to the necessity of inoculating members of families in which tuberculosis has occurred, since their resistance usually is subnormal and they have peculiar facilities for contracting the disease."

As regards the treatment of clinical tuberculosis of the lungs, the author rightly points out that this never is an uncomplicated tuberculosis, the infection always being associated by that with other, pus-producing, microorganisms. Consequently, as far as the specific treatment of pulmonary tuberculosis is concerned, Doctor Crofton is of the opinion that first of all the associated infection or infections should be controlled, if necessary by the administration of appropriate vaccines which best are autogenous. During that time, he proposes to hold the tuberculous process itself in check by the administration of iodine as an intravital germicide. For this purpose, he employs preferably iodoform by the intravenous route. Doctor Crofton reasons for, and methods of, administering iodoform in this manner are very interesting and appeal to the Reviewer as well taken. In due time, of course, the treatment of the tuberculosis infection itself by specific means will receive proper attention, and, here, Doctor Crofton's complete antigen seems to present a very acceptable remedy.

The second volume mentioned is devoted to the problems of therapeutic immunization in general and discusses the theories, explaining the mechanism of immunity in acceptable manner. Occasionally however, the author forgets that, what is perfectly clear and self-evident to him, owing to continued study of and familiarity with the subject, is not as well known to the general practitioner for whom both books are intended. Occasionally, the author's evident desire to be brief and to condense the

text as much as possible has led him to sacrifice clearness to brevity. The Reviewer is under the impression that some of the discussions might have been elucidated a little more. However, with a reasonable preliminary training, the student will have no difficulty in following the author's very interesting discussions and, certainly, he is bound to benefit greatly from the study of these two books.

It is interesting to note, by the way, that the insistence upon the importance of protective immunization against tuberculosis originated in our own country and that it is now supported in Ireland. We well remember that the idea was rather ridiculed in this country by the "leaders" of medical thought. As usual, however, the "leaders" are constrained to follow and the justice of prophylactic immunization, not only against tuberculosis, but, by implication, against other infections, is now generally accepted.

BONIME: "TUBERCULIN AND VACCINE"

Tuberculin and Vaccine in Tubercular Affections. A practical Guide for the Utilization of the Immune Response in General Practice. By Ellis Bonime, M. D. Troy, New York: The Southworth Company, Publishers. 1917. Price $5.00.

Here is another book on tuberculin which gives evidence of the increasing attention that is being devoted to the socalled specific treatment of tuberculosis. Doctor Bonime has elaborated a method of "safe" tuberculin treatment which, while by no means original, still is very acceptable. The method of gradual immunization by carefully spaced doses has been followed by several other physicians long before Doctor Bonime. Yet, that it has found acceptance and support in a large institution like the New York Policlinic School and Hospital is cause for encouragement.

It is to be regretted that, in his choice of tuberculins, the author of this book is extremely limited, and especially that he refrains from crediting other American workers who certainly have done much to advance the specific treatment of tuberculosis. The practical part of the book contains valuable information and guidance for the physician who desires to devote much attention to the treatment of tuberculosis. Doctor Bonime's book merits careful study and increasing popularity.

"PRACTICAL MEDICINE SERIES"

Volume IV of the current series of *Practical Medicine Series* is devoted to the literature on pediatrics and on orthopedic surgery, an important portion of the discussions being on diseases of the newborn, infant feeding, infant welfare, etc., all subjects that are important factors in the present-day endeavors to lower the infantile mortality. Other chapters are devoted to poliomyelitis, both from the medical and the orthopedic viewpoint; to the infectious diseases of children, malaria, respiratory diseases, heart diseases, and so on.

Practical Medicine Series is a publication issued in eight volumes a year and containing abstracts of the literature during the preceding year. The subject is divided in volumes, making it convenient to select those topics in which physicians or specialists may be particularly interested. While the volumes can be bought singly (the price for the present one being $1.40), the subscription price for the series of eight volumes is $10.00. It is published by The Year Book Publishers, 304 S. Dearborn St., Chicago.

CRAIG. "WASSERMANN TEST"

The Wassermann Test. By Charles F. Craig, A. M. (Hon.), M. D. (Yale). Illustrated with colored plates, halftone plates and fifty-seven tables. St. Louis: C. V. Mosby Company. 1918. Price $3.00.

A treatise on the Wasserman Test always is interesting, for the reason that, with our constantly enlarging experience with this important serum reaction, our appreciation of its possibilities, as well as its limitations, becomes more and more exact. Having been prepared by a medical officer of the United States Army and published with the authority of the Surgeon General, it may be accepted as self-evident that the methods described are those recognized as most suitable for correct work.

It is significant that the author cautions against drawing conclusions from the results of the Wassermann test alone. Indeed, he insists that the interpretation of these results must rest very largely with the clinician, for, the clinical picture present often is more decisive than is the re-

sult of the test, and it is the clinician's place to reconcile the result of the test with the clinical picture, rather than it is the serologist's duty.

We believe that this position is well taken since we are convinced that much harm has been done in the past by laying undue stress upon results of serological investigations and without proper appreciation of the clinical picture presented. It is only by considering duly every possible factor that enters into the diagnostic data that a true conclusion can be arrived at.

FRENKEL: "TABETIC ATAXIA"

The Treatment of Tabetic Ataxia by Means of Systematic Exercise. By Dr. H. S. Frenkel. Second revised and enlarged English edition by L. Freyberger, J. P., M. D. (Vienna). With 130 illustrations. Philadelphia: P. Blakiston's Son & Co. 1917. Price $3.00.

While the treatment of locomotor ataxia by systematic and graduated exercises does not claim to influence the tabetic process itself, it is asserted to have a beneficial effect on the most prominent symptom of dorsal tabes, namely, the ataxia. It is to popularize Doctor Frenkel's method that this little book has been made accessible to English-speaking physicians.

LEWIS. "GRAY'S ANATOMY"

Anatomy of the Human Body. By Henry Gray, F. R. S. Twentieth Edition. Thoroughly revised and re-edited by Warren H. Lewis, B. S., M. D. Illustrated with 1247 engravings. Philadelphia and New York: Lea & Febiger. 1918. Price $6.50.

A new edition of Gray's Anatomy always arouses our interest, although this is largely retrospective and the retrospect recedes into the past farther and farther as the years go by.

It can hardly be expected of the Reviewer to undertake a detailed comparison of this latest edition of "Gray" with earlier ones. Suffice it to say that it has the same familiar appearance, although the illustrations seem to be more easily read than formerly because of the distinctive use of red, blue and yellow colors. We are under the impression that these colors have been utilized in several past editions, but, we confess not to have "looked up" Gray for some time. To the young medics just entering upon their studies, the announcement of the twentieth edition of Gray's Anatomy will be of interest.

SLUDER: "HEADACHES AND EYE DISORDERS"

Concerning Some Headaches and Eye Disorders of Nasal Origin. By Greenfield Sluder, M. D. With 115 illustrations. St. Louis: C. V. Mosby Company. 1918. Price $7.00.

Secondary symptoms that are due to pathologic conditions in the nasal passages very often are overlooked, for the reason that the clinical picture many times does not suggest a nasal origin at all. Foremost among such afflictions are certain forms of headache and eye affections, which may be relieved promptly and permanently once the true etiology is understood. The author of the book before us deserves our thanks for collecting the material available on this particular subject and for presenting it in such a splendid manner.

SHERA: "VACCINES AND SERA"

Vaccines and Sera: Their Clinical Value in Military and Civilian Practice. By A. Geoffrey Shera, M. D. With an Introduction by Sir Clifford Allbutt, M. D. London: Oxford University Press. 1918. Price

Doctor Shera, the author of this little treatise, attempts to clear up the deplorable chaotic medical opinion concerning the subject of vaccines and sera. He properly deprecates undue optimism regarding this method of treatment, that is, of specific therapy, which, however, despite many failures and discouragements, without a doubt, is an important method of dealing with a great variety of diseases that physicians have to treat. The little volume contains an immense amount of information in a very small space and is well worth studying.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6407.—"As to Leukoderma." E. M. W., British Honduras, asks: "What can I do in a baffling case of leukoderma or, rather, "vitiligo," in which I have given by mouth and applied to the skin everything that I could think of, but, without avail?" At present, the ivory-white plaques appear only on the back of the subject's hands, but, they are increasing slowly all the time." The Doctor has been thinking of injecting sodium cacodylate, and giving calcium iodide and mercury combined with nuclein by the mouth. The patient is a strong, hearty man of middle age.

We are not surprised, doctor, at your failure to effect a cure, since, unfortunately, treatment for this condition rarely is successful. In view of the fact, however, that occasionally the trouble may occur on the basis of a syphilis-infection your suggestion of administering sodium cacodylate may be a good one. This plan is further supported by the fact that occasionally the continued administration of arsenic has influenced the trouble favorably. Concerning the administration of sodium cacodylate, you will find suggestions in various textbooks.

Vitiligo has been asserted by some authors to be of nervous origin—in fact, to constitute a neurosis—while others have advanced the theory that it is due to abnormal functioning of the endocrine, or ductless, glands. For the former reason, bromides sometimes have been administered, while, in accordance with the latter view, thyroid, adrenal, and other endocrine preparations have been utilized.

To tell the truth, doctor, very little is known about the origin and nature of this esthetically disagreeable, although otherwise harmless, condition.

We suggest that you see to it that this patient's general condition be in perfect order, including elimination through the bowels, kidneys and skin. If you can find anything abnormal in the vital organs, administer treatment toward its correction. Then sodium cacodylate might be administered tentatively, perhaps one dose a week for the space of a month.

If that course fails, it would seem a rational procedure to try some of the hormones, perhaps thyroid extract or, possibly, "hormotone." Hormotone contains a combination of internal secretions and often has been found of very great service in conditions where these secretions were deficient.

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QUERY 6408.—"Pyelonephritis." C. B. S., New York, writes: "The patient is a man 58 years old. Nine and one-half years ago, he severely bruised one testicle, which caused swelling and great pain. The condition was neglected and eventually the ascending pus caused a very bad case of cystitis. A year after the injury, at a hospital, he had irrigations of the bladder for six weeks, and for as long at his home. His physician again neglected him and he began taking hexamethylenamine. Then, after studying his own case, the patient happily blundered upon the idea of saturating himself with sulphide of calcium, and he did so occasionally, besides taking a methylene-blue compound. Then he learned to massage the prostate with a rectal electrode, expressing much pus and foul stuff. He has continued the hexamethylenamine all this time, taking from 10 to 20 grains

daily, but, neglected the massaging for the past two years, because of improved condition.

"Five months ago, his heart began to be quite irregular and he employed the old physician, who gave him tablets, which had no effect. Then he changed to tincture of digitalis, which whipped the heart, but, did little good. He then secured an analysis of his urine, and this revealed much albumin, besides granular and hyaline casts. Not satisfied, claiming that he had not suffered the usual symptoms of Bright's disease, a specialist at Rochester (principally of stomach diseases) was called into the case by the family physician, and he also found albumin, and hyaline and granular casts. Afterward he paid a personal visit to this physician alone and gave full history of his case, whereupon the physician expressed the opinion that all the difficulty might be caused by the pus still ascending and causing infection of the ureters and into the kidneys. However, he did not alter his findings, but recommended massaging again and the drinking of twelve to fourteen glass of water daily.

"Next, the patient went to a specialist in Buffalo and has had by him two analyses of the urine, with a test of kidney efficiency. This specialist could find no albumin and no casts, except a few tubular casts, and he diagnosed "subacute tubular nephritis." He scouted the condition of the testicle (which is now only a small soft tumor, performing no function perceptibly, as nothing can be expressed from the corresponding vesicle) and dismissed entirely the idea of infection from that cause, as being impossible of communication from the testicle to the bladder. I think he is wrong on this point.

"I have found the man's stomach much distended by his following the doctor's advice to drink so much water, besides being a very hearty eater. I reduced the water to two quarts, most of it to be taken hot and half of it at mealtimes; I also placed him on a restricted diet of milk, eggs, and zwieback, seasoned only by cayenne-pepper. I have taken away the digitalis and hexamethylenamine and allow no medicine but cratægus (15 drops four times a day). He is flushing the bowels every morning with salines. The heart is now acting quite satisfactorily, with very little skipping. There is no heart disease at all; the prostate is in fine condition. The patient is about his work, looking and feeling much better.

"Resumption of massaging brings pus from the vesicles and shows that there is trouble there yet. No pus has been reported in any of the uranalyses. The man is married, but, does not indulge in intercourse, although he admits having had nocturnal emissions. One physician reported spermatozoa and pus in matter expressed from the prostate by the physician himself. I am making three massages of the vesicles and prostate each week and this reduces very much the aches and pains in the sacral region.

"From the two quarts of water and three glass of milk drank daily, he passes fully two quarts of urine. This shows the kidneys efficient; however, the urine is slightly below normal in specific gravity. There are many shreds and patches in the freshly voided urine, which makes me suspect that the old cystitis is not entirely cured. These shreds and patches seem to be on the increase. I am in doubt about making further irrigations or continuing the hexamethylenamine. That, of itself, continued over so long a term, might cause some of the blood pressure discerned, since the formaline compounds are derived from alcohol. The blood pressure, though, is much lower since the drugs mentioned are omitted.

"I have never met such a case nor read of one. I want to know your exact findings and all the information and help your talent can give me. Is it Bright's disease? If so, is it caused by the old injury and its neglect? This man's family history is clear; his own history and habits are excellent—of a Christian man. Tell me what is your opinion about this perplexing case?"

The report of our pathologist upon specimen of urine submitted clearly indicates the existence of pyelonephritis, the presence of pus casts being practically pathognomonic, and we are forced to conclude that the trauma sustained some years ago set up an epididymoorchitis, and that this resulted first in cystitis and through the further ascending infection involved the kidneys. The question remains, of course, whether only one or both kidneys are implicated, which, however, can easily be settled by cystoscopic examination. There is a faint pos-

ibility, of course, that nephritis existed prior to the injury to the testicle, but that has little or no bearing upon the present condition.

Your treatment is excellent, still, it would seem distinctly desirable that a cystoscopic examination be made, subsequent treatment to be based largely upon the findings.

As you are aware, pyelonephritis usually is bilateral, when resulting from obstruction in the bladder, prostate or urethra, but, the kidneys are not, as a rule, equally involved. In the differentiation between pyelitis and pyelonephritis and cystitis, there are some interesting features.

In chronic cystitis, the amount of urine and urea passed daily is practically normal, unless the patient has been given water in large quantities or diuretics. The reaction generally is alkaline or soon becomes so, unless the cystitis be due to infection by the colon- or tubercle-bacillus. There is a mucopurulent sediment, which coagulates quickly; also, microscopically, pus and a large number of bladder epithelial cells are found. There is no renal pain and no tenderness on pressure over the kidney.

In pyelonephritis, the urine is turbid yellow, amber, or lemonade-colored and has a specific gravity of from 1.005 to 1.025, but, usually is below normal. The urea and chlorides are markedly diminished. Pus-cells and pus in masses are present, together with a few red blood-cells, epithelia from the pelvis and renal tubules, hyaline, granular, epithelial, and pus casts, the latter pathognomonic of pus-kidney.

In this case, the possibility of the existence of calculus may almost be excluded, nevertheless, excellent authorities state that every patient should be radiographed as a matter of routine and that a diagnosis can never be considered complete unless such examination has been made.

The mere fact that the prostate and seminal vesicles are in bad condition does not in any way detract from the serious aspect of the renal lesion. As a matter of fact, doctor, in the light of the urinary findings and the data that you have presented, we do not think there need be the slightest question as to diagnosis.

POINTED PARAGRAPHS

Lieutenant Ollie Josephine Baird, of Detroit, began her duties as contract surgeon at Camp McClellan July 1, and has the rank, pay, and quarters of a first lieutenant. She has not yet been allowed to wear the insignia of her rank, but the regulation salute has been accorded her. Lieutenant Baird was one of the first five graduates from the Mayo clinic and formerly practiced medicine at Detroit.

Some 250 telephone-girls have been chosen to go to France as a signal-corps unit. In addition to conforming to the qualifications set by the U. S. Signal-Corps for membership, the operators were required to pass a psychological examination, to determine their motives for wanting to go abroad. They will be stationed in groups of 10 in American bases of supplies and points of embarkation and will not be nearer than 23 miles to the front.

The doctor that stays at home and takes advantage of the business of his colleagues may live on the avenue and be a director in a bank, while the man who goes may, after the war, live on a side street and be fortunate if he deposits a few dollars in the bank; but, it is the latter man that will be honored and who will leave to his children an inheritance worth having.—(Lieut.-Col. Victor C. Vaughan, in *Jour. Tenn. State Med. Asso.*, June, 1918.)

The women of England are unwearying and indefatigable in their toil. By their labor, nine-tenths of the shells manufactured are made. Everywhere, as the men go forth, the women silently take up their work. The business of the British and French is, to hold the Hun armies until the United States can intervene with crushing force, and the women of both nations are doing their part.—(From Elisabeth Robinson Scovil, in *Amer. Jour. Nursing*, July, 1918.)

Twenty uniforms for women in war-work are now officially recognized in the United States. The women wearing these uniforms are munition-workers, telephone- and radio-operators, yeomen, employees of the Shipping Board and the Food Administration, Red-Cross workers, and the Young Women's Christian Association workers abroad, Women's Motor-Corps of New York, Girl Scouts, and students in the National Service School of the Woman's Naval Service, Washington, D. C.

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